

**ARTICLE 6: Residential Building and Site Design Standards .....6-1**

<b>17.6.1: General .....</b>	<b>6-1</b>
17.6.1.1: Purpose and Intent .....	6-1
17.6.1.2: Applicability.....	6-1
17.6.1.3: Design and Development Criteria .....	6-1
<b>17.6.2: Building Design Standards .....</b>	<b>6-2</b>
17.6.2.1: Architecture .....	6-2
17.6.2.2: Attached Dwelling Design Standards.....	6-5
17.6.2.3: Residential Parking Structure Standards .....	6-5
17.6.2.4: Exterior Building Elements.....	6-6
<b>17.6.3: Screening of Utility Structures, Outdoor Storage and Service Areas ....</b>	<b>6-6</b>
17.6.3.1: General Standards.....	6-6
<b>17.6.4: On-Site Pedestrian Circulation Standards.....</b>	<b>6-7</b>
17.6.4.1: Sidewalk Design Standards .....	6-7
<b>17.6.5: Landscape Design Standards.....</b>	<b>6-8</b>
17.6.5.1: General Standards.....	6-8
17.6.5.2: Street Tree Placement.....	6-9
17.6.5.3: Front Yard Landscape Standards .....	6-10
17.6.5.4: Residential Landscape Standards .....	6-11
17.6.5.5: Landscape Materials.....	6-13
17.6.5.6: Landscape Installation .....	6-14
17.6.5.7: Landscape Maintenance.....	6-15
17.6.5.8: Existing Tree Preservation.....	6-15
17.6.5.9: Tree Replacement .....	6-16
<b>17.6.6: Residential Fence and Wall Standards .....</b>	<b>6-17</b>
17.6.6.1: General Standards.....	6-17
17.6.6.2: Fence and Wall Height .....	6-18
17.6.6.3: Fence and Wall Placement.....	6-20
17.6.6.4: Fence and Wall Materials .....	6-21
<b>17.6.7: Exterior Lighting Standards.....</b>	<b>6-22</b>
17.6.7.1: General Standards.....	6-22
17.6.7.2: Exceptions .....	6-23
17.6.7.3: Prohibitions.....	6-23

## **ARTICLE 6: RESIDENTIAL BUILDING AND SITE DESIGN STANDARDS**

### **17.6.1: General**

#### **17.6.1.1: Purpose and Intent**

This Article establishes site and building design standards for residential development in the City of Lakewood (the “City”). The purpose of these design standards is to ensure that development implements the principles and goals articulated in the City’s Comprehensive Plan for quality and sustainable development that interacts and functions well with the surrounding community. The purpose of the design standards in this Article is to:

- A. Provide opportunities for residential infill development that interacts well with the character of adjoining neighborhoods;
- B. Provide for a diverse mix of land uses, densities, and housing types for infill projects;
- C. Provide a well-designed site circulation system that is conducive to pedestrian use; and
- D. Provide sustainable development through the preservation and adaptive reuse of existing housing stock.

The manner in which a particular land use functions and interacts with adjacent and surrounding land uses is integral in creating a successful development. The design of a new development or redevelopment should embrace the intent of the zone district and the purpose of the design standards in this Article.

#### **17.6.1.2: Applicability**

This Article establishes building and site design standards for a development that contains only a residential use. The design standards shall be applied to any addition or new construction except where explicitly superseded by an approved Official Development Plan (ODP) or as identified in this Article.

#### **17.6.1.3: Design and Development Criteria**

In addition to the design standards established in this Article, the City has adopted design and development criteria to further articulate the intended design for specific areas of the City. Any new development or redevelopment of a site located in an area governed by design and development criteria shall adhere to such criteria.

## **17.6.2: Building Design Standards**

### **17.6.2.1: Architecture**

The following design standards are intended to provide for the architectural interest of buildings throughout the City:

- A. Building Elevations: All residential building elevations shall have a similar level of architectural treatment and detail. Residential elevations shall be designed to include at least seven (7) of the following:
1. The incorporation of a porch or balcony;
  2. The incorporation of canopies, awnings, or overhangs at primary entryways;
  3. The incorporation of windows and doors;
  4. The use of window and doorway surrounds (sills, lintels, pilasters, mullions), through a change in plane of at least two (2) inches on average;
  5. A change in material types or textures;
  6. The use of offsets or insets, such as bays;
  7. A vertical or horizontal change to a wall plane;
  8. Vertical breaks or changes to roof lines;
  9. The inclusion of roof eaves with a minimum depth of eighteen (18) inches; and/or
  10. The use of masonry or stone on thirty (30) percent or more of the building façade.
- B. Building Transparency: Primary residential structures of three (3) or more units in the R-M or mixed-use zone districts shall be designed to increase pedestrian interest through the following:
1. Building façades oriented towards a public or private street within twenty (20) feet of existing or required right-of-way improvements shall include clear glass windows and/or doors on the ground floor.
  2. Ground floor window and door openings shall be arranged so the building uses are visible from the street on at least thirty (30) percent of the street facing façades, located within two (2) and ten (10) feet above finished grade.

C. Structure Variation:

1. Primary residential structures shall not have the same color, model or building footprint on more than three (3) consecutive lots or buildings along a street frontage.
2. Development projects that include more than three (3) primary structures shall introduce a change in the building façade, façade material, model or color pallet. A new structure variation shall be introduced for every three (3) primary structures, or fraction thereof, included within the development.

D. Bird Safety: Bird-safe glass, specially designed to prevent bird collisions, is required for all glass surfaces on exterior building facades as follows:

1. Buildings taller than forty-five (45) feet in height and located on a property adjacent to a public park that is ten (10) acres in size or greater.
2. Primary residential structures with less than three (3) dwelling units are exempt from this provision.

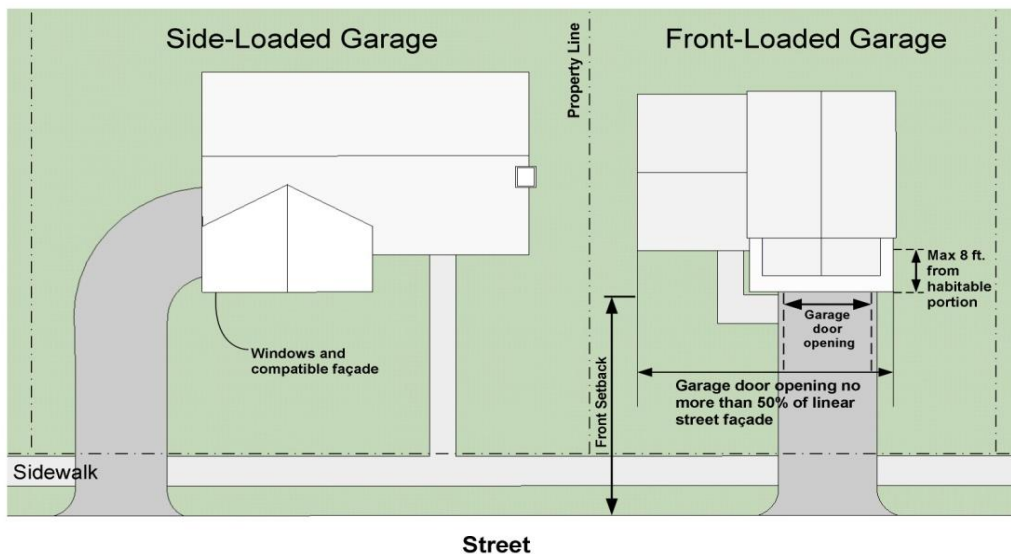
~~D.E.~~ Façades and Entry Ways: All residential structures that are adjacent to a public or private street shall contribute to the streetscape. The street-facing elevation shall have windows and at least one (1) of the following: a porch, stoop, balcony, or dormer.

1. The following standards shall apply to primary residential structures of three (3) or more units in the R-M and mixed-use zone districts:
  - a. Residential dwellings that are adjacent to a public or private street shall provide a primary entrance that faces the street; and
  - b. Residential dwellings shall have articulated façades to differentiate individual buildings.

~~E.F.~~ Garages:

1. Garage door openings for single car garages shall be a minimum width of eight (8) feet and a minimum height of seven (7) feet. Interior dimensions for single car garages shall be a minimum width of twelve (12) feet wide and a minimum depth of twenty (20).
2. Garage door openings for two-car garages shall be a minimum width of sixteen (16) feet and a minimum height of seven (7) feet. Interior dimensions for two-car garages shall be a minimum width and depth of twenty (20) feet.

3. Detached garages for all residential structures shall be setback behind the front edge of the primary residential building along the primary lot frontage.
4. The following standards are for unit garages attached to a primary structure and only apply to the front facade clearly visible from the street. Refer to [17.6.2.3](#) for residential parking structure standards.
  - a. Front-loaded garages facing a street must have windows covering at least fifty (50) percent of the door's vertical or horizontal dimension, matching the residence's architecture. Alternative designs, including solid doors, may be approved at the Director's discretion.
  - b. Front-loaded garages and carports shall not project more than eight (8) feet in front of the habitable portion of the structure and must meet the required front setback.
  - c. The garage door opening shall not comprise more than fifty (50) percent of the linear residential building façade width.
  - d. The street-facing façade of a side-loaded garage shall include at least one (1) window and a similar architectural treatment to the remainder of the residential building (See [Figure 24](#)).



**Figure 24: Attached Garages - Front and Side Loaded; 17.6.2.1:F.4.d**

**17.6.2.2: Attached Dwelling Design Standards**

- A. Where possible, primary residential structures adjacent to a public or private street and comprised of attached dwelling units shall be oriented with the longer side of the building and primary unit entries along the street. When the size, shape or configuration of a development site cannot accommodate the desired building and unit orientation, additional design standards shall be required.
- B. Developments with three (3) or more individual dwelling structures that are attached at common vertical side walls and include units where the primary dwelling entrance faces a side or rear property line shall be subject to the following:
1. The project site, which may be comprised of one (1) or more existing parcels or lots, shall have a minimum width along the street frontage of one hundred and twenty-five (125) feet.
  2. Residential dwelling units adjacent to a public or private street shall be oriented to face the street.
  3. Exterior walls for attached unit garages may not be located along the street frontage. A minimum ten (10) foot habitable space separation is required between a street facing façade and the unit garage.

**17.6.2.2:17.6.2.3: Residential Parking Structure Standards**

The following shall apply to parking structures in an R-M or M zone district:

- A. The first-floor façade of a parking structure located adjacent to a public street shall be designed to encourage and complement pedestrian-scale interest and activity through the inclusion of at least three architectural elements such as arcades, windows, awnings, overhangs, screens, grills, louvers or other similar non-opaque features.
- B. Façade openings that face a public street or open space shall be vertically and horizontally aligned and all floors fronting onto those facades shall be level, not inclined.
- C. Parking structures shall be designed so that motorized vehicles parked on all levels of the structure are screened to a minimum height of forty-two (42) inches.
- D. Within the Urban and Transit contexts, the ground floor façade of a structured parking facility that abuts a public sidewalk, street, or open space and that is not occupied by entrances, exits, or waiting areas shall be designed and constructed with a minimum unfinished floor to ceiling height of fourteen (14) feet in order to

allow occupancy by uses other than parking that are allowed in the underlying zone district.

- E. Within the Transit context, structured parking facilities located adjacent to a public street shall contain non-residential uses on the first floor along the street frontage or be wrapped with development of equal or greater height than the parking structure. At least fifty (50) percent of a street-level facing a public sidewalk, street, or open space area shall be designed and constructed to accommodate non-residential uses to a minimum depth of forty (40) feet.

#### **17.6.2.3:17.6.2.4: Exterior Building Elements**

- A. Utility meters shall be screened from view along a public street to the greatest extent possible and shall be painted a color to blend with the building façade.
- B. All external rooftop mechanical equipment shall be screened from view along a public street by parapets or enclosures that are equal to, or greater than, the height of the equipment to be screened. The parapet or enclosure shall use one of the predominant materials or colors used on the primary building façade.
- C. On all structures exceeding thirty-five (35) feet in height, roofs shall have drainage systems that are architecturally integrated into the building design.
- D. Any external stairwells, corridors and circulation components of a building shall be architecturally compatible with the overall structure, using similar materials, colors, and other building elements.

### **17.6.3: Screening of Utility Structures, Outdoor Storage and Service Areas**

#### **17.6.3.1: General Standards**

The following standards are intended to reduce the visual impact of certain site elements for developments with three (3) or more dwelling units, or common areas within residential developments.

- A. Utility boxes or equipment on private property shall not be located along a public street frontage.
- B. Landscape and structural elements shall be used to screen utility structures, service areas, loading docks, outdoor storage, recycling facilities, and trash containers.

- C. Screening shall be established on all sides of such elements except where an opening is required for access. If access is possible only on a side that is visible from a public street, a solid gate or door shall be required.
- D. Required screening shall result in an opaque barrier to a minimum height of six (6) feet and be provided in the form of new or existing plantings, walls, fences, topographic changes, buildings, horizontal separation, or a combination of these techniques.
- E. Where structural forms of screening are utilized, the materials shall match the primary building materials and colors or provide a comparable level of quality.
- F. Waste enclosures shall be covered with a roof, or they shall be self-contained. Waste enclosures shall be sized to fit recycling, trash, organics, and additional waste streams. Enclosures shall follow design standards outlined in *Lakewood's Zero Waste Design Guidelines*.

#### **17.6.4: On-Site Pedestrian Circulation Standards**

##### **17.6.4.1: Sidewalk Design Standards**

The on-site circulation system shall be designed to provide safe pedestrian paths throughout residential dwelling sites or common areas within residential developments and shall integrate with adjacent properties and neighborhoods.

- A. Internal sidewalk connections shall be required as follows:
  - 1. Between the front doors of residential buildings;
  - 2. From residential building entrances to all on-site facilities, such as parking areas, bicycle facilities, and open space;
  - 3. To connect to any accessible transit, stop that is adjacent to a site; and
  - 4. To provide direct access from all residential buildings to existing or planned public sidewalks, multi-use trails, parks, and greenways when accessible.
- B. Internal sidewalks shall be barrier-free and unblocked at all times.
- C. Sidewalk crossings shall be clearly defined and marked through a change in paving materials, height, or use of distinctive color when a sidewalk crosses a parking lot or internal street or driveway.
- D. In order to create a safe pedestrian environment residential dwelling units shall be placed and sited so that internal sidewalks are visible by at least one (1) dwelling unit from a living area window.



- E. Internal sidewalks parallel and adjacent to a street or drive aisle shall use a raised walk or be separated from the street or drive aisle by a raised curb, landscaping or other physical barrier. If a raised internal sidewalk is used, the ends of the raised portions must be equipped with curb ramps
- F. Internal sidewalks must be hard surfaced, and a minimum of five (5) feet in width. When adjacent to perpendicular, head-in, or diagonal parking, a pedestrian walk must be increased in width to a minimum of seven (7) feet when parking is located on one side, and a minimum of nine (9) feet when parking is located on both sides.
- G. Where a sidewalk is provided between two (2) or more parallel buildings, the minimum distance between the buildings shall be twenty (20) feet from building wall to building wall. Where a sidewalk is located between a property line and a building that is parallel to a property line, the minimum distance from the property line to the building shall be ten (10) feet. The sidewalk shall have a minimum width of five (5) feet.

## **17.6.5: Landscape Design Standards**

### **17.6.5.1: General Standards**

The following standards shall apply to all new residential construction and additions to existing structures greater than or equal to twenty (20) percent of the gross floor area (GFA) of the existing principal structure:

- A. Any portion of a site not utilized for buildings, structures, parking, driveways, service areas or storage areas shall be considered a landscape area.
- B. Plantings shall be arranged to promote energy and water conservation to the greatest extent possible. Where practicable:
  - 1. Deciduous trees which are sun tolerant shall be placed on the south and west sides of buildings to provide shade and allow passive heating; and
  - 2. Evergreens and other plant materials which are shade tolerant shall be concentrated on the north side of buildings to dissipate the effect of winds.
- C. Drought tolerant landscaping design shall be incorporated into the overall landscape theme. Drought tolerant landscape design includes, but is not limited to, utilizing native and/or low-water plant species, employing water-conserving irrigation techniques and systems, and reducing the percentage of turf coverage.
- D. Evergreen trees shall not be used in the tree lawn or within eight (8) feet of a public walk.

- E. Artificial trees, shrubs, turf or plants shall not be used to fulfill the minimum requirements for landscaping as required by this Article.

#### **17.6.5.2: Street Tree Placement**

The following standards shall apply to all new residential construction and additions to existing structures greater than or equal to twenty (20) percent of the GFA of the existing principal structure:

- A. One (1) deciduous street tree shall be provided for every thirty-five (35) linear feet of street frontage. Street trees shall be evenly spaced along the street frontage.
  - 1. Where a detached sidewalk exists, the tree shall be placed between the edge of asphalt or curb and sidewalk.
  - 2. In R-L or R-MH zones, where the sidewalk is attached to the street, canopy shade trees shall be established in an area ranging from four (4) feet to eight (8) feet behind the sidewalk.
  - 3. In all other zone districts, wherever the sidewalk is attached to the street and is nine (9) feet or more in width, shade trees shall be established in planting cutout areas that are sized to provide a minimum twenty-five (25) square foot planting area.
  - 4. Where no sidewalk exists, trees shall be placed twenty (20) feet from the edge of asphalt.
- B. The Director shall provide a recommended list of trees which shall be acceptable to satisfy the requirements for landscape plans, including approved shade trees that may be used as street trees.
- C. Trees shall be located to avoid significant interference with overhead or underground utilities, including lateral connections. A tree canopy may project over a right-of-way or easement.
- D. The presence of overhead or underground utility lines does not exempt a project from the requirements of this Section. The following alternatives may be considered if utility lines conflict with the placement of required street trees and the Director determines it is not feasible to relocate or underground said utility lines.

1. Required street trees may be substituted for ornamental trees where overhead lines and fixtures prevent normal tree growth and maturity; and/or
2. Where adequate spaces is available, required street trees may be planted elsewhere on site subject to Director approval.

When the street tree requirements cannot be satisfied through the above options, the Director may require the applicant to pay a tree replacement fee.

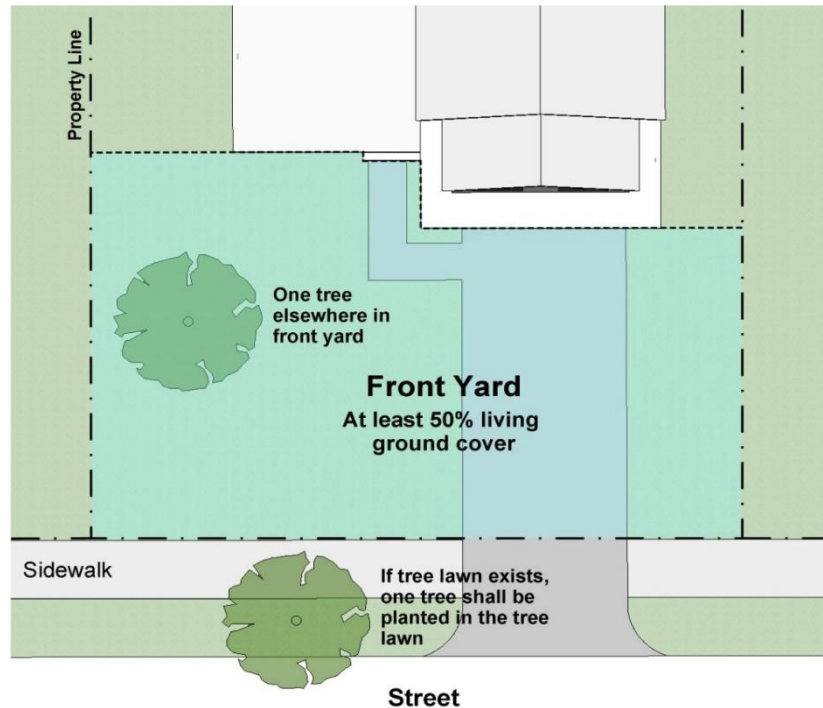
- E. Plant materials shall be located to avoid interference with vehicular and pedestrian movement. Plant materials shall not project over sidewalks, paths, or trails below a height of eight (8) feet at maturity.

#### **17.6.5.3: Front Yard Landscape Standards**

In addition to the general landscape standards, this Section establishes standards for a residential lot within the ~~R-L and R-MH~~ residential and mixed-use zone districts with less than three (3) dwelling units. The following standards apply to new residential construction and additions to existing structures greater than fifty (50) percent for landscape areas located behind the sidewalk along a public street.

All front yard landscape areas shall meet the following minimum requirements:

- A. Each dwelling unit along a street frontage shall provide at least one (1) tree in the front yard in addition to any street tree(s) required per [17.6.5.2.](#)
- B. The front yard shall be landscaped with a minimum of fifty (50) percent living ground cover or living drought tolerant landscaping approved by the Director.
- C. Artificial turf, used as a landscape material, is prohibited in the front yard. See [17.6.5.5:](#) Landscape Materials for additional requirements.
- D. Existing trees, shrubs, turf, or plants shall count toward fulfilling the minimum requirements for landscaping in the front yard.



**Figure 25: Front Yard Landscaping; 17.6.5.3**

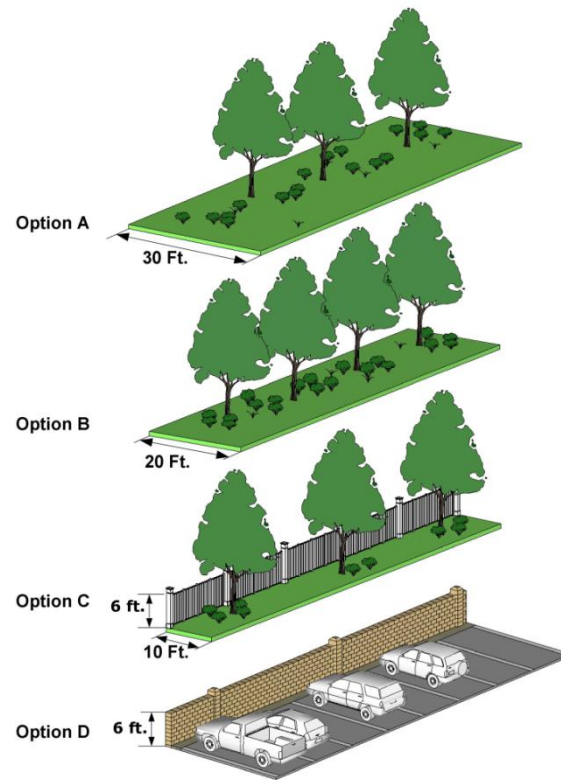
#### **17.6.5.4: Residential Landscape Standards**

In addition to the general landscape standards, this Section establishes the standards for a residential lot within the residential and mixed-use zone districts with three (3) or more dwelling units.

All landscape areas shall meet the following minimum requirements:

- A. One (1) tree and three (3) shrubs shall be provided for every five hundred and fifty (550) square feet of landscape area. Tree lawn areas, parking lot landscape areas and landscape buffer areas are counted separately and independently from this requirement.
- B. In situations where it is not practical to plant a tree on site, trees may be replaced at a ratio of ten (10) shrubs or twenty (20) ornamental grasses to one (1) tree. Tree substitutions are at the discretion of the Director.
- C. Landscape areas shall have a minimum of fifty (50) percent living ground cover or drought-tolerant landscaping approved by the Director and shall grow to the required coverage within five (5) years of installation.

- D. Whenever a residential site includes three (3) or more dwelling units within the R-M and mixed-use zone district that directly abuts a residential dwelling in a R-L district, one of the following transition options shall be installed in lieu of these landscaping requirements (See [Figure 26](#)):
1. Option A: A landscaped area with a width of thirty (30) feet shall be provided along the property line. Canopy shade trees, evergreen trees, and shrubs shall be provided in the following numbers per one hundred (100) linear feet of the adjacent property:
    - a. Three (3) trees; and
    - b. Twenty (20) shrubs.
  2. Option B: A landscaped area with a width of twenty (20) feet shall be provided along the property line. Canopy shade trees, evergreen trees, and shrubs shall be provided in the following numbers per one hundred (100) linear feet of the adjacent property:
    - a. Four (4) trees; and
    - b. Twenty-four (24) shrubs.
  3. Option C: A solid fence or wall, six (6) feet in height, shall be provided along the property line. Brick or stone columns must be incorporated into the fence or wall design and spaced at least every thirty-two (32) feet. A landscaped area with a width of ten (10) feet shall be provided adjacent to the fence. Canopy shade trees, evergreen trees, and shrubs shall be provided in the following numbers per one hundred (100) linear feet of the adjacent property:
    - a. Three (3) trees; and
    - b. Ten (10) shrubs
  4. Option D: A wall six (6) feet in height made of brick or stone or other comparable material shall be provided along the property line with brick or stone columns spaced at least every thirty-two (32) feet may be installed in-lieu of landscaping for sites containing twenty-five (25) or fewer parking spaces.



**Figure 26: Side and Rear Transition Areas; 17.6.5.4:D**

#### **17.6.5.5: Landscape Materials**

- A. The selection of plant materials shall be based on the City's climate, site conditions and recommended plant material list approved by the Director.
- B. All plants shall be free of any defects, of normal health, height, leaf density, and spread appropriate to the species as defined by American Nursery and Landscape Association standards.
- C. To prevent uniform insect or disease susceptibility and eventual uniform maturity and agedness on a development site or in the adjacent area or the district, species diversity is required, and monocultures are prohibited. The requirements identified in [Table 9](#) shall apply to site development plans.

<b>Table 9: Tree Species</b>	
<b>Number of required trees</b>	<b>Maximum percentage of any tree species</b>
10 - 19	75%
20 - 39	60%
40 or more	50%

**Table 9: Tree Species; 17.6.5.5:C**

- D. The following minimum tree and shrub sizes identified in [Table 10](#) shall be required for planting.

<b>Table 10: Tree and Shrub Size</b>	
<b>Type</b>	<b>Minimum Size</b>
Canopy Shade (Deciduous) Tree	2.5" caliper, Balled and Burlapped (B & B) or equivalent
Evergreen Tree	6.0' height, B & B or equivalent
Ornamental Tree	1.5" caliper, B & B or equivalent
Shrubs	5 gallon or a size consistent with design intent
<b>Note: Any tree or shrub plantings that are in addition to the minimum required by this Article are exempt from the foregoing size requirements.</b>	

**Table 10: Tree and Shrub Size; 17.6.5.5:D**

#### **17.6.5.6: Landscape Installation**

- A. To the maximum extent feasible, topsoil that is removed during construction activity shall be conserved for later use in areas requiring revegetation and landscaping.
- B. All landscaping shall be installed according to the American Nursery and Landscape Association horticultural practices in a manner designed to encourage quick establishment and healthy growth.
- C. Whenever the installation of required landscaping is not possible by the time construction on the primary structure has been completed, the City may authorize a delay in installation until no later than May 31<sup>st</sup> of the next calendar year.

- D. All landscaping in each development or development phase shall be installed before a certificate of occupancy is issued. As a condition of authorizing a delay in installation, the City may:
1. Require that a surety or other guarantee, in a form acceptable to the City, is provided in the amount of one hundred and fifty (150) percent of the value of the landscaping; or
  2. Issue a temporary certificate of occupancy, with the permanent certificate of occupancy to be issued following installation of all required landscaping.

#### **17.6.5.7: Landscape Maintenance**

The following standards shall apply to all residential development:

- A. Trees and vegetation, irrigation systems, and other landscape elements shall be considered elements of the project in the same manner as parking, building materials, and other site details. The landowner shall be responsible for the regular and proper maintenance of all landscaping elements.
- B. All landscaping shall be maintained free from disease, pests, weeds, litter, and all landscape structures shall be repaired and replaced as necessary to ensure they are structurally sound.
- C. Any required landscape element that fails, dies, or is otherwise damaged or removed, shall be replaced within thirty (30) days or by May 31<sup>st</sup> of the next calendar year if the landscape element is found dead during the winter months.
- D. Landscape and utility plans shall be coordinated to provide ease of future maintenance and to prevent conflicts between tree and shrub plantings and utilities. Tree/utility separations shall not be used as a means of avoiding the planting of required street trees.

#### **17.6.5.8: Existing Tree Preservation**

- A. Existing trees with trunks greater than eight (8) inches in diameter, measured one (1) foot above grade, shall be preserved to the extent reasonably feasible and will help satisfy the landscaping requirements of this Section. Such trees shall be considered "protected" trees within the meaning of this Section. Overall site design, including the placement of new streets, buildings and parking lots, shall minimize disturbance to protected trees.
- B. The Director shall determine through consultation with the City Forester when it is not feasible to preserve and retain protected tree(s). When it is not feasible to preserve or transplant protected tree(s), the applicant shall replace such tree(s)



according to this Section. Replacement trees shall be used to satisfy the tree planting standards of this Section.

- C. Trees that meet one (1) or more of the following criteria are exempt from the requirements of this subsection.
  - 1. Dead, dying or naturally fallen trees, or trees determined by the City to be a threat to public health, safety, or welfare;
  - 2. Trees that are determined by the City to substantially obstruct clear visibility at driveways and intersections;
  - 3. Tree species that the City determines to be a nuisance to the public, including Ash, Cottonwoods, Siberian Elms, Russian Olives, Tree of Heaven and Female Box Elders. However, trees, no matter the species, are not considered nuisance trees when they are located near a property line and are used to create a buffer between any land uses; or
  - 4. Trees that are determined by the Director to prohibit reasonable use or development of a site may be replaced following the standards in [17.6.5.9](#).
- D. The applicant shall identify all existing street trees that are located on City rights of way or easements adjacent to a development and all trees located on private property by species, size, location, and condition on required landscape plans.
- E. The following tree protection standards shall be followed for all projects with protected trees:
  - 1. No one shall add or remove over four (4) inches of soil within the drip line of any protected tree unless the City Forester has evaluated and approved the disturbance.
  - 2. Prior to and during construction, a fenced tree protection zone, formed by barriers, shall be erected and maintained around all protected trees at the drip line.
  - 3. The installation of utilities, irrigation lines, or any underground fixture requiring excavation deeper than six (6) inches shall be accomplished by boring under the root system of protected existing trees at a minimum depth of twenty-four (24) inches.

#### **17.6.5.9: Tree Replacement**

- A. If the Director determines that certain trees prohibit reasonable use or development of a site and such trees are removed, the applicant shall replace

those trees at a rate of one hundred (100) percent of the total caliper of trees removed from the site.

- B. Replacement trees shall be a minimum size of two (2) caliper inches for deciduous trees or six (6) feet in height for evergreen trees.
- C. In lieu of replacing the total caliper inches on-site, an owner may pay ~~one thousand two hundred two thousand~~ (1,200 2,000) dollars, or the present value as determined by the Director, for each two (2) caliper inch replacement tree that is not planted on-site. The payment shall be deposited into a designated fund that shall be used by the City to plant trees on public property within the same Ward as the development or redevelopment.
- D. When development causes any disturbance within any natural area on a property, replacement shall occur as required in this Section.

## **17.6.6: Residential Fence and Wall Standards**

### **17.6.6.1: General Standards**

The following standards shall apply to all residential development:

- A. No fence, wall, trellis, pergola, or arbor shall be erected, including replacement and repair, without a fence and/or building permit unless these structures are less than eight (8) feet long and six (6) feet high.
- B. Retaining walls greater than three (3) feet in height require a building permit and must satisfy all engineering design requirements.
- C. A temporary fence permit may be issued in conjunction with an active building permit. A temporary fence permit may be granted for a one (1) year renewable period. All temporary fencing must be removed upon completion of construction and prior to the issuance of a certificate of occupancy.
- D. Fences and walls shall be installed so that a finished side faces a public street or public space.
- E. Fences and walls shall follow the contour of the ground as far as practicable. Adjustments for grade shall occur at the bottom of the fence to every extent possible.
- F. Permanent fencing and walls shall not be erected if they restrict emergency access to any building.
- G. Fences and walls no longer maintained in a safe manner and/or which create a hazard through neglect, lack of repair, manner of construction, method of

placement, or otherwise, shall be repaired, replaced or removed by the property owner. Examples of lack of maintenance shall include, but are not limited to, protruding or exposed wire, missing or protruding pickets, missing sections of fence, sagging or leaning pickets and supports, extending into a traveled sidewalk or creating a hazard for a pedestrian or motor vehicle.

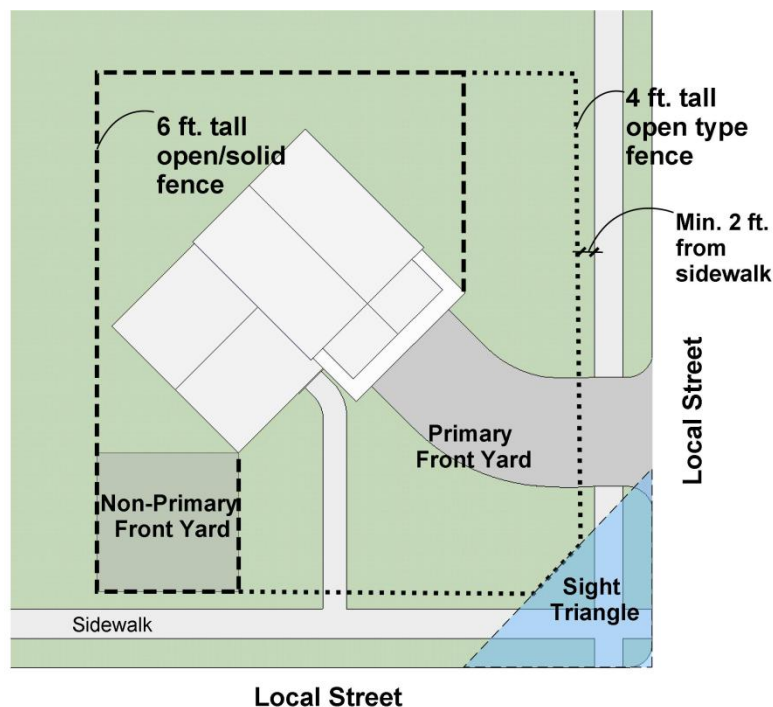
- H. Solid fencing or wall sections along a street totaling more than two hundred (200) linear feet shall include architectural features, such as masonry, brick or wood-framed columns for every fifty (50) feet of length. The minimum separation between those features shall be no less than ten (10) feet.
- I. Approved columns or posts may exceed the height of the fence by one (1) foot and must meet all permit and setback requirements.

#### **17.6.6.2: Fence and Wall Height**

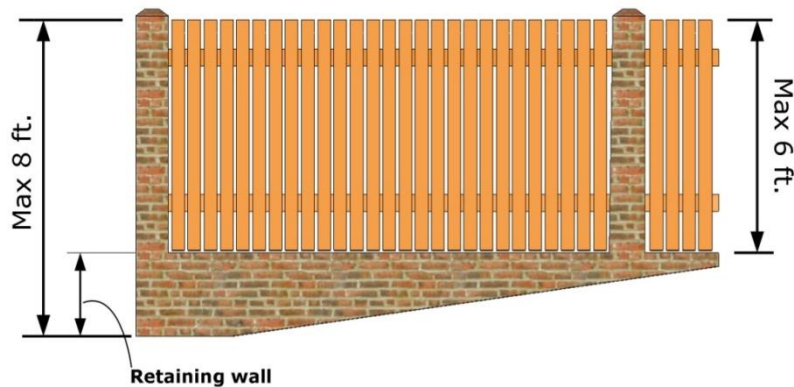
The following standards shall apply to all residential development:

- A. All fence, wall and structure heights shall be measured from the lowest finished grade at the location of the fence, wall or structure.
- B. If a minimum linear distance of ten (10) feet separates a fence and retaining wall, a fence may be erected to a height of six (6) feet above the highest finished grade.
- C. All fences in the primary front yard of residential uses shall not exceed four (4) feet in height and a minimum fifty (50) percent open (See [Figure 27](#) and [Figure 29](#)).
- D. All fences in the rear yard, side yard, non-primary front of residential uses may be solid and shall not exceed six (6) feet in height (See [Figure 27](#)) except that recreational facility fences may be ten (10) feet in height when placed in a side or rear yard.
- E. Perimeter fencing for public and private utilities and solar gardens shall not exceed six (6) feet in height and shall be at least fifty (50) percent open along a street frontage.
- F. A combination four (4) foot-tall, fifty (50) percent open fence may be erected on top of an existing two (2) foot-tall retaining wall in the primary front yard.
- G. Solid fences and walls may be erected to a height of eight (8) feet to separate a property from an arterial street or a frontage road adjacent to U.S. 6 and U.S. 285 highways. The Director shall consider the aesthetic, visual, and noise reduction characteristics of the fence or wall.

- H. A combination fence and retaining wall may be erected in rear, side and non-primary front yards to a height of six (6) feet above the highest finished grade or eight (8) feet above the lowest finished grade, at the location of the fence, except that at no time shall the fence portion exceed six (6) feet above the highest finished grade at any point (See [Figure 28](#)).
- I. A retaining wall cannot be built for the purpose of elevating a fence to any height more than allowed by [17.6.6.2](#).
- J. An entry feature or trellis may exceed the six (6) foot height standard indicated in [17.6.6.2:D](#) so long as it is no more than a maximum height of ten (10) feet and a maximum width of ten (10) feet.



**Figure 27: Residential Fence Location; 17.6.6.2**

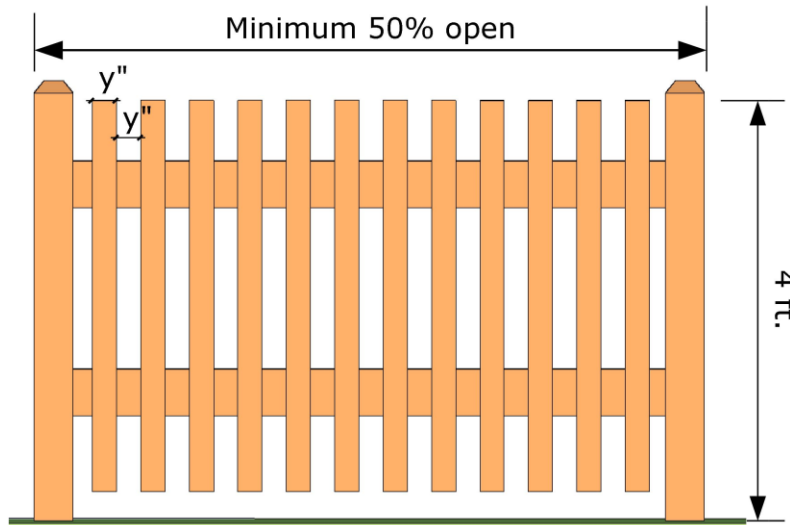


**Figure 28: Fence and Retaining Wall Combination; 17.6.6.2:H**

### **17.6.6.3: Fence and Wall Placement**

The following standards shall apply to all residential development:

- A. No portion of a fence shall extend beyond the property line of the fenced property into the public right-of-way without approval of the Director. It may also be necessary to obtain an agreement prior to erecting a fence in the public right-of-way.
- B. All fences and walls including fence support systems such as posts, pillars, and columns shall be set back at least to the property line and a minimum of two (2) feet from the back edge of the sidewalk to allow for safe passage by persons on a sidewalk or traveled walkway or where no sidewalk exists then two (2) feet behind the edge of asphalt.
- C. Gates adjacent to sidewalks, alleys and public rights-of-way shall open inward to the private property.
- D. Where a legally permitted fence exists along the shared property line of an adjacent lot, the subject property may align its fence with the furthest extent of the adjacent fence. The subject property's fence may not exceed the height of the existing adjacent fence and may only be solid if the adjacent fence is solid.
- E. All fence locations on through-lots shall be reviewed on a case-by-case basis by the Director following the waiver criteria specified in 17.2.6.
- F. A four (4) foot fence that is a minimum of fifty (50) percent open may be permitted within a vision clearance triangle with review and approval of the City's Traffic Engineering Division (See [Figure 29](#)).



**Figure 29: Fifty-percent Open Fence: 17.6.6.3:F**

- G. Where a corner lot is permitted to have a solid fence along a non-primary front property line that coincides with an adjacent property's primary front yard, no fence will be permitted that creates a site distance hazard for vehicles exiting that property or for pedestrians walking along a sidewalk or traveled walkway.

#### **17.6.6.4: Fence and Wall Materials**

The following standards shall apply to all residential development:

- A. Approved materials for fence construction include, but are not limited to, commercial quality wood, brick, masonry, metal, stone, wrought iron, manufactured vinyl or PVC fence material or any other material approved by the Director following the waiver criteria specified in 17.2.6.
- B. Barbed wire shall be allowed to a height of twelve (12) inches above a seventy-two (72) inch tall fence on non-primary front, side and rear property lines in the R-1-A zone district lots that are one (1) acre in size or larger.
- C. Combination fences of lattice and other decorative materials may be used in conjunction; however, at no time shall the combination exceed the fence height limitation for that zone district.
- D. All material used in wood fences shall be either naturally rot resistant (such as cedar), or pressure treated for rot resistance.

- E. Prohibited fence materials shall include, but are not limited to, aluminum siding, vehicle parts, smooth face concrete masonry units/blocks, cloth or plastic tarps, scrap wood or any other material not customarily sold for fencing.
- F. Plastic or temporary construction fencing may not be used as a permanent fence material.
- G. Approved materials for wall construction include, but are not limited to: commercial quality brick, decorative masonry units, or decorative concrete or any other material approved by the Director following the waiver criteria specified in 17.2.6.
- H. Prohibited wall materials shall include, but are not limited to, landscape timbers, smooth face concrete masonry units/blocks, and other materials not customarily sold for retaining walls.

### **17.6.7: Exterior Lighting Standards**

#### **17.6.7.1: General Standards**

The following lighting standards shall apply to all residential development:

- A. Unless specifically excluded by this Zoning Code, any building or structure, including any accessory building or structure, shall conform to the lighting requirements for the applicable use as set forth in this Zoning Code.
- B. Lighting sources shall be directed away from reflective surfaces to minimize glare upon adjacent property and public rights-of-way.
- C. Lighting sources shall be positioned in such a manner as to direct light away from adjacent property and public rights-of-way.
- D. No direct rays of light shall extend beyond the boundaries of the property from where the light originates.
- E. Excluding R-L residential dwelling sites and associated accessory structures, light fixtures on structures, walls, canopies, poles, stands, or mounted on a building shall have a shield, adjustable reflector, and non-protruding diffuser.
- F. Lighting fixtures shall comply with the DarkSky and Illuminating Engineering Society principles for minimal light pollution and shall utilize light emitting diodes (LED) unless the Director approves an industry equivalent.
- G. Light meter readings for a residential lot within the R-M and mixed-use zone districts with three (3) or more dwelling units shall not exceed:

1. One-half (1/2) foot-candles at a residential dwelling property line in R-L zones.
2. One (1) foot-candle at a residential dwelling property line in all other zone districts.
3. Two (2) foot-candles at all other non-residential property lines.
4. Two (2) foot-candles at the public right-of-way.

#### **17.6.7.2: Exceptions**

Exceptions to the lighting standards include, but may not be limited to:

- A. Hazard warning lighting required by Federal and State regulatory agencies;
- B. Temporary emergency lighting required by local law enforcement, emergency service and utility department(s);
- C. Traffic control and directional lighting;
- D. Underwater lighting used for the illumination of swimming pools and water features;
- E. Lighting for temporary festivals and carnivals;
- F. Lighting for recreational facilities. No private recreational facilities shall be illuminated after 11:00 p.m. except to conclude a scheduled recreational or sporting event in progress prior to 11:00 p.m.;
- G. Low wattage residential accent and landscape lighting fixtures having a maximum output of 1600 lumens (equal to one 100-watt incandescent light) per fixture; or
- H. Other exceptions as approved by the Director.

#### **17.6.7.3: Prohibitions**

The following lighting sources are prohibited:

- A. Laser lights or other high intensity outdoor lights;
- B. Searchlights and floodlights used for advertising purposes; and
- C. Lighting sources used on towers except as required by the Federal Aviation Administration.