

FILE NUMBER: DCA212-006(SD)

DATE INITIATED: Summer 2022

TOPIC: Consideration of amending Chapter 51 and Chapter 51A of the Development Code regarding height and grade measurements and related sections.

CITY COUNCIL DISTRICTS: All

CENSUS TRACTS: All

PROPOSAL: Consideration of amending Chapters 51 and 51A of the Dallas Development Code Sections 51A-2.102 "Definitions", 51A-4.408 "Maximum Building Height", and related sections with consideration to be given to modify how building height is measured, how grade is established, and provide clarifications.

SUMMARY: The proposed code amendments modify how building height is measured and how grade is established in the Development Code for the purpose of clarity and consistency with other codes. These modifications are also intended to more closely align Dallas with other area cities and provide for more efficient plan review.

ZONING ORDINANCE ADVISORY COMMITTEE RECOMMENDATION: Approval.

STAFF RECOMMENDATION: Approval.

Code Amendments webpage:

<https://dallascityhall.com/departments/pnv/Pages/Code-Amendments.aspx>

Appendices

1. Change Tables
2. Conservation Districts
3. Comparison Cities

BACKGROUND INFORMATION:

- On February 4, 1987, Council adopted Ordinance No. 19455 which added Chapter 51A to the Dallas Development Code. The note that exists at the end of Section 51A-4.408(a)(2) and the conflicting exceptions to residential proximity slope in the district regulations in Division 51A-4.100 have remained unchanged since the adoption of Chapter 51A.
- The 2000 edition of the International Building Code (IBC) established *grade plane* within six feet of the building.
- On September 24, 2008, Council adopted Ordinance No. 27334 which amended Chapters 51 and 51A to add *finished ground surface elevation* as a definition within the definition of *grade*.
- On October 29, 2021, the Development Services Department (DSD) requested a code amendment to clarify the measurement of height, both the start and end points.
- The Zoning Ordinance Advisory Committee discussed the proposed amendments at four meetings between May and October 2022 and ultimately recommended the included proposed amendments for CPC consideration.
- On January 5, 2023, staff briefed the City Plan Commission (CPC) on ZOAC's recommendation.

STAFF ANALYSIS:

The Dallas Development Code currently defines building height from a unique definition of grade (the lower point of measurement) to different points on the roof based on the type of roof (the upper point of measurement).

For the starting point of height measurement, the current ordinance measures grade by averaging the finished ground surface elevations at the highest and lowest *exterior corners of a structure*. This starting point is inconsistent with the definition of “grade plane” found in international codes, which measure grade from the finished ground surface elevations *within six feet of the structure*.

The end point of measuring height in the Dallas Development Code is also in need of clarification and updates. Because the Dallas Development Code differs from international codes and contains some misunderstood terminologies, permitting staff must often reject submittals and educate customers on how the Dallas Development Code measures height, and this frequent cycle of revision creates barriers to development

and confusion for the community. The proposed changes would normalize the City's definition of height and grade, provide additional guidance on where the measurement of height begins and ends, and provide additional guidance for allowable rooftop structures, while ensuring that few existing buildings are put into nonconforming status by the proposed amendments.

Lower Point of Measurement

The purpose of amending the definition of grade is to bring it closer to international codes to improve communication and efficiency in government processes. Since at least 2000, international codes have a definition for *grade plane*¹ which measures, "points within the area between the building at the lot line or, where the lot line is more than six feet from the building, between the building and a point six feet from the building" whereas the existing measurement of grade in the Dallas Development Code measures *finished ground surface elevation*² to all exterior corners of the structure. The conflict of the Dallas Development Code measuring grade at the corners of a structure and international codes measuring grade six feet from the structure has created much confusion for neighbors questioning how building height is determined and creates multiple plan revisions for permit applicants to demonstrate the proposed construction drawings comply with both definitions of grade plane and grade.

Once grade, per the Dallas Development Code, is documented on grading plans, the building elevations must also show the grade to find the starting point of height. These revisions require the already signed and sealed grading plan from a licensed surveyor/engineer and building elevations from the designer/architect to be sent back for revisions for any development that approaches the maximum structure height to determine if a structure complies with the Dallas Development Code's unique method of determining maximum building height. Revisions to these drawings represents a significant and unexpected cost to the applicant and often leads to delays in plan review while the department awaits submittal of the revised grading plans.

To address this inconsistency, the proposed amendments take steps to more closely align with the international codes methodology of evaluating ground surfaces within six feet of

¹ GRADE PLANE means a reference plane representing the average of finished ground level adjoining the building at exterior walls. Where the finished ground level slopes away from the exterior walls, the reference plane shall be established by the lowest points within the area between the building at the lot line or, where the lot line is more than six feet from the building, between the building and a point six feet from the building. (2015 IBC)

² FINISHED GROUND SURFACE ELEVATION means the ground surface elevation of the building site before any construction or the ground surface elevation as altered in accordance with grading plans approved by the building official. Finished ground surface elevation does not include: (A) fill material not necessary to make the site developable; (B) berms; or (C) landscape features. (Dallas Development Code)

the building, while maintaining the practice of measuring the highest and lowest points, instead of the international codes' complicated way of averaging an unspecified number of grades along an unspecified number of exterior walls.

The proposed amendment to the definition of grade retains the term "finished ground surface elevation" and is only altered by uncoupling this term from within the definition of grade into a separate and easier to find defined term. The purpose of the 2008 amendment to add "finished ground surface elevation" to the definition of grade was to prevent a lot from being built up steeply to the exterior corners of a foundation for the sole purpose of establishing the lower measurement point of height higher, thereby gaining additional height. The benefits of the 2008 amendment remain intact and are enhanced by extending the calculation of grade from the exterior corners of the structure to within six feet of the structure. The proposed alignment with international codes to extend the measurement of grade from exterior corners of a structure to within six feet of a structure may lower the measurement of grade for many properties; however, the next section of this report will address when the lower point of height measurement can be measured from finished floor and is expected to allow most existing structures which barely conformed to the maximum structure height to still be in compliance with the proposed amendments.

Distances between grade and first finished floor

Staff's original proposal was to amend the starting measurement of height to begin at finished floor, since all building elevations show height measurements starting from finished floor; however, the committee had apprehensions with that proposal. To address concerns that new developments might construct an unusually high finished floor on the ground story that would be incongruous with surrounding properties to gain height advantages, a 'tolerance' of 18 inches between grade and the finished floor was introduced so that most projects can utilize the simplified height measurement. The rationale of making 18 inches the tolerance between grade and the finished floor is based upon crawlspaces for pier and beam foundations which could be significantly taller on a sloping site but are generally 12 to 18 inches tall on the low side of those foundations.

Although the proposed amendments relating to where to begin measuring height is more complex, it allows most developments on relatively flat sites and slab-on-grade foundations some flexibility to be consistent with the submitted elevation drawings, which normally shows a height of the structure measured from the finished floor. The added flexibility with the 18-inch tolerance also serves to establish a reliable base point of measurement for field inspectors in the event the grading around the new structure is slightly adjusted for unexpected changes and it allows for field verification of the starting

point before the vertical members are erected. Therefore, these amendments are recommended to simplify the review process, provide an earlier benchmark for field verification, and to maintain provisions to discourage developments that design structures with elevated finished floors to intentionally gain height advantages.

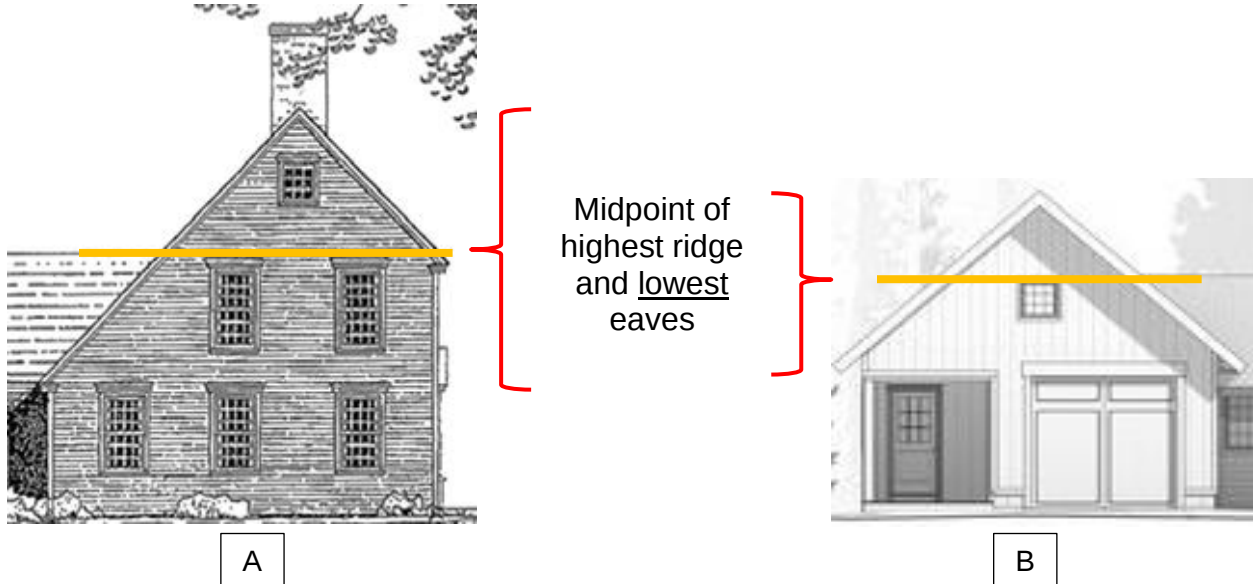
Upper Point of Measurement

ZOAC discussed simplifying the upper point of height measurement to be to the highest point of a structure, regardless of roof type. However, after further study of peer and area cities, as well as potential nonconformities that would be created by this change, it is recommended that the current system for determining the upper point of measurement by roof design be maintained, including the midpoint of pitched roofs, with some modification. Maintaining the practice of measuring to the midpoint of pitched roofs will also continue to encourage pitched roof designs.

At the January 5 CPC briefing, staff was also asked to review conservation districts to evaluate how the proposed amendments would affect those districts. Staff found that most conservation districts use the Chapter 51A definition of grade but set their own upper measurement points. The proposed amendments will affect any conservation districts or zoning district that does not specifically modify (or restate their own definitions of) height or grade, but the proposed amendments to the measurement of grade will be negligible or more restrictive, depending on how steeply additional fill, if any, are proposed to be added for new construction. A detailed table of conservation districts is provided in the appendix for more information. Similarly, neighborhood stabilization overlays may regulate height with a special regulation called 'height plane' which is separately defined in [Section 51A-4.507](#) "Neighborhood Stabilization Overlay" and will not be affected by the proposed amendments because it is separately defined.

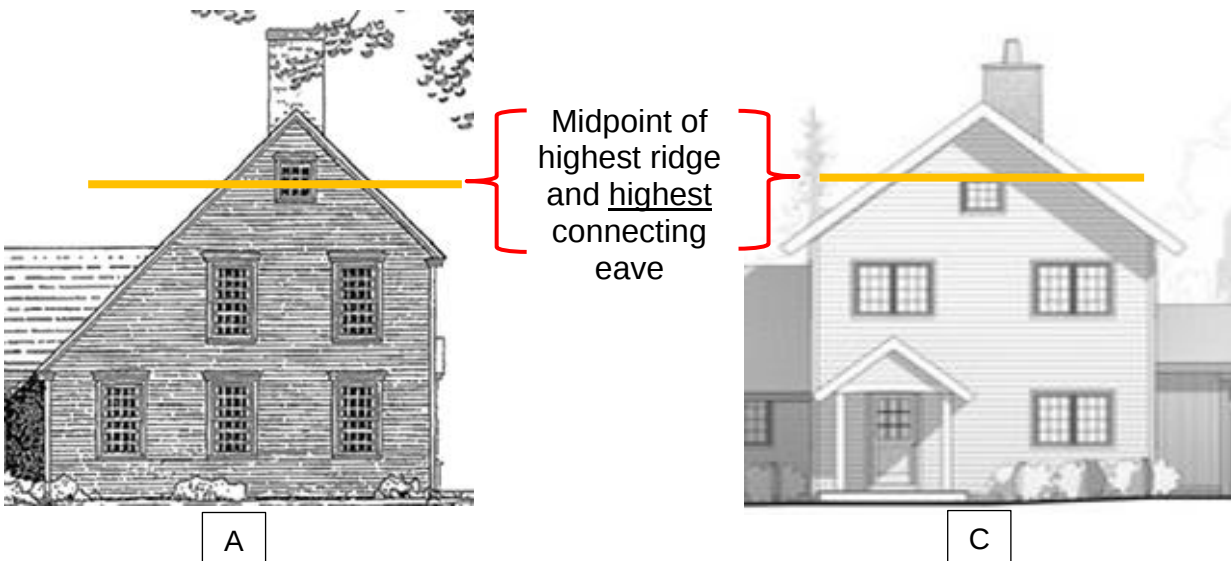
It is also recommended that the ending the measurement of height at the midpoint of a pitched roof along the vertical distance from the highest ridge be measured to the highest connected eave, as opposed to the lowest connected eave as prescribed in the current code. The primary purpose of amending the current definition of the upper point of building height is to eliminate manipulations, particularly in the case of pitched roofs with different eave heights as described in the following illustrations.

Current method of measurement



Currently, the height of a pitched roof is measured to the midpoint of the vertical dimension between the lowest eaves and highest ridge. Setting one eave much lower than the other as shown in Building A above, can lead to additional building mass above the maximum structure height. While the two example buildings compare a one-story to a two-story structure, current code considers them to be nearly the same height.

Proposed method of measurement



It is recommended that the end point of height be measured from the midpoint of the ridge to the highest connecting eave instead of the lowest eaves to enhance consistency.

Also, replacing undefined terms; such as gable, hip, or gambrel; with a list of criteria that constitutes a pitched roof which requires the roof to have a minimum of two connecting eaves on each side of the ridge and a minimum roof pitch of 1:6 (rise over run), provides additional clarity. This clarification is also included in the final paragraph of Section 51A-4.408. After the conclusion of ZOAC, staff determined the need for the same clarification for, the NO(A) Office District regulations, and the NS(A) Neighborhood Services District regulations for consistency.

As with all potential code amendments, it is important to understand the potential nonconformities that could be created. Saltbox and gambrel roofs are the two primary roof types that might experience some nonconforming rights. Since saltbox roofs have eaves at differing heights, there has been differing interpretations about where the eave measurement would be taken and because the amendments move the eave measurement from the lowest eaves to the highest eave, some salt box roofs may become nonconforming as shown in the illustrations above. There is also a potential for nonconformities in structures with gambrel roofs, but gambrel roofs are rare in the city. For both roof types, all of the usual legal nonconforming structure regulations and protections would still apply.

Allowed Structures on Rooftops

In districts that limit building height to 36 feet or less, the current provisions in the Dallas Development Code allow for several structures to be located on rooftops and exceed the maximum structure height, such as elevator bulkheads, mechanical equipment and its screening, and parapet walls. However, in comparative cities, these items are listed as exclusions to height limits in all districts. Additionally, these exceptions often soften unsightly items from upper-level views or are otherwise hidden from street-level view. Therefore, it is recommended extending these exceptions to all districts.

Other modifications to these exceptions are also recommended such as including guardrails with parapet walls and adding equipment such as lightning rods and satellite dishes based on plan review experience. Additionally, it is recommended to include allowances for rooftop access to mechanical rooms to exceed the maximum structure height with added locational standards to prevent the appearance of an additional story and limiting the area of projection to limit the bulk of these projections.

It is also recommended to eliminate the allowance of a 12-foot clerestory projection because the traditional use of clerestories as being limited to windows which allow light into interior rooms are seldom proposed. Usually, clerestory windows are proposed on

the exterior walls of contemporary structures and therefore adds additional height and bulk at an exterior wall, which is inconsistent with the traditional intent of clerestories.

Residential Proximity Slope Note

It is recommended to delete the “Note” regarding Residential Proximity Slope (RPS) in Section 51A-4.408 “Maximum Building Height”. This note is original to Chapter 51A and leads the reader to expect that the structures listed in 51A-4.408(a)(2) are subject to RPS limitations but specifies that district regulations may have exceptions. When the reader refers back to the district regulations, every district that restricts height by RPS also exempts the full list of structures found in Section 51A-4.408(a)(2) from RPS. Therefore, the note contradicts the controlling regulations of the districts which specify the structures listed in Section 51A-4.408(a)(2) are exempt from RPS and this circular reference creates confusion. Deleting this note will not affect how these structures are treated in review and is consistent with how RPS is currently and historically applied. Additionally, the note is unnecessary because without the RPS exception in individual district height regulations, RPS applies to those structures just as RPS applies to the main portion of the structure.

Residential Proximity Slope Clarifications

A small modification regarding where the height measurement of RPS ‘begins’ is recommended and is necessary for consistency with how height is proposed to be measured. Since RPS is a building height restriction, the measurement of it must be consistent with the measurement of height.

ZOAC Recommended Amendments to Chapter 51A

*Some definitions are omitted for brevity.
Italics added to denote defined terms.*

SEC 51A-2.102. DEFINITIONS.

In this chapter, unless the context requires otherwise:

(8) BASEMENT means any story [level] of a *building* where more than one half of the vertical distance between floor and ceiling is below *grade*. For purposes of determining maximum stories, basements are excluded.

(37.1) FINISHED GROUND SURFACE ELEVATION means the ground surface elevation of the *building site* before any construction or the ground surface elevation as altered in accordance with grading plans approved by the building official. Finished ground surface elevation does not include:

(A) fill material not necessary to make the site developable;

(B) berms; or

(C) landscape features.

(45) GRADE means the average of the highest and lowest points of the *finished ground surface elevation* on a *building site* measured within six feet of a *structure*, abutting *lot lines*, or *right-of-way lines*, whichever is nearer; including retaining walls and excluding areas located in a *floodplain* as defined by Article V. When a site contains multiple *structures*, additions constructed in phases, or uneven ground story finished floor levels, grade is determined for each *structure*, phase, or ground story finished floor level~~[finished ground surface elevations measured at the highest and lowest exterior corners of a *structure*. For purposes of this definition, FINISHED GROUND SURFACE ELEVATION means the ground surface elevation of the *building site* before any construction or the ground surface elevation as altered in accordance with grading plans approved by the building official. Finished ground surface elevation does not include:~~

~~—(A) fill material not necessary to make the site developable;~~

~~—(B) berms; or~~

~~—(C) landscape features].~~

(45.2) GROUND STORY means any *story* of a *building* or portion thereof with the lowest finished floor, excluding *basements*.

ZOAC Recommended Amendments to Chapter 51A (continued)

(47) HEIGHT means, ~~[the vertical distance measured from grade to:]~~

(A) For a structure with a ground story finished floor,

(1) The measurement of height begins at:

(aa) the finished floor of the ground story when the finished floor is 18 inches or less above grade, or

(bb) grade when the finished floor of the ground story is greater than 18 inches above grade;

(2) The measurement of height ends at:

(aa) ~~[(A)]~~ for a structure with a pitched ~~[gable, hip, or gambrel,]~~ roof, the midpoint of the vertical dimension between ~~[the lowest eaves and]~~ the highest ridge and the highest connecting eave, when the roof has a minimum of two connecting eaves on each side of the ridge and a minimum roof pitch of 1:6 (rise over run);

(bb) ~~[(B)]~~ for a structure with a dome roof, the midpoint of the vertical dimension of the dome; and

(cc) ~~[(C)]~~ for any other structure, the highest point of the structure.

(B) For a structure without a ground story finished floor, the measurement of height begins at grade and ends at the highest point of that portion of the structure.

Recommended Amendments to Chapter 51A (added after ZOAC)

SEC. 51A-4.121. OFFICE DISTRICTS.

- (a) Neighborhood office [NO(A)] district.

Omitted for brevity

(4) Yard, lot, and space regulations. (Note: The yard, lot, and space regulations in this subsection must be read together with the yard, lot, and space regulations contained in Division 51A-4.400. In the event of a conflict between this subsection and Division 51A-4.400, Division 51A-4.400 controls.)

Omitted for brevity

- (E) Height.

(i) Residential proximity slope. If any portion of a structure is over 26 feet in height, that portion may not be located above a residential proximity slope. Exception: Except for chimneys, structures listed in Section 51A-4.408(a)(2) may project through the slope to a height not to exceed the maximum structure height, or 12 feet above the slope, whichever is less. Chimneys may project through the slope to a height 12 feet above the slope and 12 feet above the maximum structure height.

(ii) Maximum height. Unless further restricted under Subparagraph (i), maximum structure height is:

(aa) 35 feet for a structure with a pitched [gable, hip, or gambrel] roof and a minimum of two connecting eaves on each side of the ridge and a minimum roof pitch of 1:6 (rise over run); and

(bb) 30 feet for any other structure.

Recommended Amendments to Chapter 51A (added after ZOAC)

SEC. 51A-4.122. RETAIL DISTRICTS.

(b) Neighborhood service [NS(A)] district.

Omitted for brevity

(4) Yard, lot, and space regulations. (Note: The yard, lot, and space regulations in this subsection must be read together with the yard, lot, and space regulations contained in Division 51A-4.400. In the event of a conflict between this subsection and Division 51A-4.400, Division 51A-4.400 controls.)

Omitted for brevity

(E) Height.

(i) Residential proximity slope. If any portion of a structure is over 26 feet in height, that portion may not be located above a residential proximity slope. Exception: Except for chimneys, structures listed in Section 51A-4.408(a)(2) may project through the slope to a height not to exceed the maximum structure height, or 12 feet above the slope, whichever is less. Chimneys may project through the slope to a height 12 feet above the slope and 12 feet above the maximum structure height.

(ii) Maximum height. Unless further restricted under Subparagraph (i), maximum structure height is:

(aa) 35 feet for a structure with a pitched [gable, hip, or gambrel] roof and a minimum of two connecting eaves on each side of the ridge and a minimum roof pitch of 1:6 (rise over run); and

(bb) 30 feet for any other structure.

ZOAC Recommended Amendments to Chapter 51A (continued)

SEC 51A-4.408. MAXIMUM BUILDING HEIGHT.

(a) Special height provisions.

Omitted for brevity

(2) In all [a] districts [~~in which building height is limited to 36 feet or less~~], the following *structures* may project a maximum of 12 feet above the maximum structure height specified in the district regulations (Divisions 51A-4.100 et seq.):

(A) *Structures* on top of a building:

(i) Elevator penthouse or bulkhead.

(ii) Mechanical equipment room and rooftop access structures, when:

(aa) the cumulative area of projection is a maximum of one-third of the roof area,

(bb) an additional setback is provided from the street-facing facades for that portion of the structure above the roof equal to one foot for each foot in height for that portion of the structure above the rooftop, and

(cc) every portion of this structure complies with residential proximity slope.

(iii) Cooling tower.

(iv) Tank designed to hold liquids.

(v) Ornamental cupola or dome.

(vi) Skylights.

(vii) Lightning rods, small satellite dishes, weathervanes, and similar equipment [Clerestory].

(viii) Visual screens which surround roof mounted mechanical equipment.

(ix) Chimney and vent stacks.

(x) Amateur communications tower.

(xi) Parapet wall or guard rails limited to a height of four feet above the maximum structure height specified in the district regulations.

ZOAC Recommended Amendments to Chapter 51A (continued)

(B) Structures at grade level:

(i) Amateur communications tower.

~~Note: The heights allowed in Subsection (a)(2) are subject to any residential proximity slope height restrictions that may be contained in the district regulations for a particular district. (See Divisions 51A-4.100 et. seq.).~~

(3) The maximum building height requirements in a planned development district are controlled by the planned development district regulations.

(4) In all ~~[single family, duplex, townhouse, MF 1(A), MF 1(SAH), MF 2(A), and MF 2(SAH)]~~ districts:

(A) no dormer eaves may project above the maximum structure height specified in the district regulations (Divisions 51A-4.100 et seq.); and

(B) the highest point of a structure with a pitched ~~[gable, hip, gambrel, or dome]~~ roof with a minimum of two connecting eaves on each side of the ridge and a minimum roof pitch of 1:6 (rise over run), may not project more than 12 feet above the maximum height specified in the district regulations (Divisions 51A-4.100 et seq.).

ZOAC Recommended Amendments to Chapter 51A (continued)

SEC. 51A-4.412. RESIDENTIAL PROXIMITY SLOPE.

(a) Definitions of general terms. In this section:

(1) PRIVATE PROPERTY means any property not dedicated to public use, except that “private property” does not include the following:

(A) A private street or alley.

(B) Property on which a utility and public service use listed in Section [51A-4.212](#) is being conducted as a main use.

(C) A railroad right-of-way.

(D) A cemetery or mausoleum.

(2) RESTRICTED BUILDING OR STRUCTURE means the building or structure whose height is restricted by a residential proximity slope.

(3) SITE OF ORIGINATION means any private property in:

(A) an R, R(A), D, D(A), TH, TH(A), CH, MF-1, MF-1(A), MF-1(SAH), MF-2, MF-2(A), or MF- 2(SAH) district; or

(B) an identifiable portion of a planned development or conservation district, which portion is restricted to residential uses not exceeding 36 feet in height. See the sections in this chapter governing planned development and conservation districts for specific guidance as to how to treat identifiable portions of those districts.

(b) Residential proximity slope defined. The residential proximity slope is a plane projected upward and outward from every site of origination as defined in Subsection (a). Specifically, the slope is projected from the line formed by the intersection of:

(1) the vertical plane extending through the boundary line of the site of origination; and

(2) the beginning point of the measurement of height [~~grade~~] of the restricted building or structure.

(c) Angle and extent of projection. The angle and extent of projection of the residential proximity slope depends on the zoning category of the site of origination as follows:

ZONING CATEGORY	ANGLE OF PROJECTION	EXTENT
R, R(A), D, D(A), TH, and TH(A)	18.4° (1 to 3 slope)	Infinite.
CH, MF-1, MF-1(A), MF-2, and MF-2(A)	45° (1 to 1 slope)	Terminates at a horizontal distance of 50 feet from the site of origination.

(d) Calculation of height restrictions. The horizontal distances used to calculate the height restrictions imposed by the residential proximity slope may be determined by using the lot, block, and right-of-way dimensions as shown on the official plat or zoning maps of the city, or by scale measurement of the distances on such official maps. All dimensions and methodology used in determining the distance measurement are subject to the approval of the building official.

(e) Exemption. Certain structures are exempt from the residential proximity slope. See Section 51A-4.408.

Image Sources

Building A – Saltbox Roof. familyhomeplans <https://www.familyhomeplans.com/plan-52171>

Building B – Backyard Cottage. William Merriman Architects
<http://www.merrimanarchitects.com/backyard-cottage>

Building C – Front Gable Roof. William Merriman Architects
<http://www.merrimanarchitects.com/products/small-traditional-sd>

References

International Building Code (2015):

GRADE PLANE. *A reference plane representing the average of finished ground level adjoining the building at exterior walls. Where the finished ground level slopes away from the exterior walls, the reference plane shall be established by the lowest points within the area between the building at the lot line or, where the lot line is more than six feet from the building, between the building and a point six feet from the building.*

HEIGHT, BUILDING. *The vertical distance from grade plane to the average height of the highest roof structure.*

[SECTION 202 DEFINITIONS](#)

Appendix 1 – Change Tables

This table shows comparative information between Current Code and the proposed amendments.

	Current Code	Proposed Amendments
Basement <i>51A-2.102(8)</i>	See Proposed Amendments	Clarification
Finished Ground Surface Elevation <i>51A-2.102(37.1)</i>	Definition contained within Grade	Move this definition unchanged to its own item
Grade <i>51A-2.102(45)</i>	Average of highest point and lowest point of the finished ground surface elevation at exterior corners of structure	Average of highest point and lowest point of grade within 6' of structure, lot line, or floodplain line, whichever is closer
Ground Story <i>51A-2.102(45.2)</i>	[New definition to Article II but exists in Article XIII]	Story with lowest finished floor, excluding basements
Height - lower point of measurement <i>51A-2.102(47)(A)(1)</i>	Measured from grade	Measured from grade or finished floor (FF) elevation when FF is within 18" of grade
Height – upper point of measurement on a pitched roof <i>51A-2.102(47)(A)(2)</i>	Measured to midpoint of highest ridge and lowest eave	Measured to midpoint of highest ridge and highest eave
Structures allowed to exceed maximum structure height <i>51A-4.408(a)(2)</i>	Allowed in districts that limit height to 36' or less	Allowed in all districts
Mechanical Equipment rooms <i>51A-4.408(a)(2)(A)(ii)</i>	Allowed to exceed maximum height and since they need access, this item has been interpreted to allow rooftop stairs to exceed height.	Add rooftop access structures, but cumulative maximum is one-third of total roof area; 1:1 setback from street-facing façade; must comply with RPS
Clerestories <i>51A-4.408(a)(2)(A)(vii)</i>	Clerestory allowed to exceed maximum height	Strike clerestory, replace with lightning rods, small satellite dishes, weathervanes, and similar equipment
Parapet Walls <i>51A-4.408(a)(2)(A)(xi)</i>	Allowed, limited to four feet	Add guardrails and clarify the four-foot limitation is above the max height.
RPS Note <i>51A-4.408(a)(2)</i>	Conflicts with district regulations for RPS exceptions	Strike Note to fix conflict and maintain current practice
Height limits for dormers and ridges <i>51A-4.408(a)(4)</i>	Restricts in certain districts	Restricts in all districts
Ridge of pitched roof <i>51A-4.408(a)(4)(B)</i>	Specifies gable, hip, gambrel, or dome roof	Align with amendments to "pitched" roof and provide definition

	Current Code	Proposed Amendments
Residential Proximity Slope <i>51A-4.412(b)(2)</i>	Height limit of RPS begins at grade	Align height limit of RPS with proposed lower point of height measurement
Max building height in NO(A) districts <i>51A-4.121(a)(4)(E)(ii)(aa)</i>	Specifies gable, hip, and gambrel roof	Align with amendments to “pitched” roof and provide definition.
Max building height in NS(A) districts <i>51A-4.122(a)(4)(E)(ii)(aa)</i>	Specifies gable, hip, and gambrel roof	Align with amendments to “pitched” roof and provide definition.

Zoning District	Current Code		ZOAC Recommendation	
	Max. Height	Exceptions in 51A-4.408(a)(2) apply?	Max. Height	Exceptions in 51A-4.408(a)(2) apply?
A(A) 51A-4.111	24'	Yes	No change	No change
R-1ac(A) 51A-4.112(a)	36'	Yes	No change	No change
R-1/2ac(A) 51A-4.112(b)	36'	Yes	No change	No change
R-16(A) 51A-4.112(c)	30'	Yes	No change	No change
R-13(A) 51A-4.112(d)	30'	Yes	No change	No change
R-10(A) 51A-4.112(e)	30'	Yes	No change	No change
R-7.5(A) 51A-4.112(f)	30'	Yes	No change	No change
R-5(A) 51A-4.112(g)	30'	Yes	No change	No change
D(A) 51A-4.113	36'	Yes	No change	No change
TH(A) 51A-4.114	36'	Yes	No change	No change
CH(A) 51A-4.115	36' and RPS ³	Yes	No change	No change
MF-1(A) & MF-1(SAH) 51A-4.116(a)	36' and RPS ³	Yes	No change	No change
MF-2(A) & MF-2(SAH) 51A-4.116(b)	36' and RPS ³	Yes	No change	No change
MF-3(A) 51A-4.116(c)	90' and RPS ³	No	No change	Yes
MF-4(A) 51A-4.116(d)	240' and RPS ³	No	No change	Yes
MH(A) 51A-4.117	24'	Yes	No change	No change
NO(A) 51A-4.121(a)	35' (pitched roof) and RPS ⁴ ; 30' otherwise; and RPS ⁴	Yes	Update to pitched roof criteria	No change
LO(A) 51A-4.121(b)	LO-1: 70' LO-2: 95' LO-3: 115' and all have RPS ⁴	No	No change	Yes
MO(A) 51A-4.121(c)	MO-1: 135' MO-2: 160' and all have RPS ⁴	No	No change	Yes
GO(A) 51A-4.121(d)	270' and RPS ⁴	No	No change	Yes

³ Residential proximity slope applies to portions of a structure over 26' and originates from private property in R(A), D(A), and TH Districts.

⁴ Residential proximity slope applies to portions of a structure over 26' and originates from private property in R(A), D(A), TH, MF-1(A) and MF-2(A) Districts.

Zoning District	Current Code		ZOAC Recommendation	
	Max. Height	Exceptions in 51A-4.408(a)(2) apply?	Max. Height	Exceptions in 51A-4.408(a)(2) apply?
NS(A) 51A-4.122(a)	35' (pitched roof) and RPS ⁴ ; 30' otherwise and RPS ⁴	Yes	Update to pitched roof criteria	No change
CR 51A-4.122(b)	54' and RPS ⁴	No	No change	Yes
RR 51A-4.122(c)	70' and RPS ⁴	No	No change	Yes
CS 51A-4.123(a)	45' and RPS ⁴	No	No change	Yes
LI 51A-4.123(b)	70' and RPS ⁴	No	No change	Yes
IR 51A-4.123(c)	200' and RPS ⁴	No	No change	Yes
IM 51A-4.123(d)	110' and RPS ⁴	No	No change	Yes
CA-1(A) & CA-2(A) 51A-4.124(a) – (b)	Any legal height	No	No change	No change
MU-1 & MU-1(SAH) 51A-4.124(d)	80' - 120' and RPS ⁴	No	No change	Yes
MU-2 & MU-2(SAH) 51A-4.124(e)	135' - 180' and RPS ⁴	No	No change	Yes
MU-3 & MU-3(SAH) 51A-4.124(f)	270' and RPS ⁴	No	No change	Yes
MC-1 51A-4.125(d)	70' and RPS ⁴	No	No change	Yes
MC-2 51A-4.125(e)	90' and RPS ⁴	No	No change	Yes
MC-3 & MC-4 51A-4.125(f)	MC-3: 115' MC-4: 135' and RPS ⁴	No	No change	Yes
UC 51A-4.127	UC-1: 30'-55' UC-2: 40'-80' UC-3: 55'-100' and RPS ⁴	Yes for UC-1 without structured parking bonus; otherwise, no	No change	Yes

⁴ Residential proximity slope applies to portions of a structure over 26' and originates from private property in R(A), D(A), TH, MF-1(A) and MF-2(A) Districts.

Appendix 2 – Conservation Districts

	Grade	Building Height
CD No. 1 <i>Kings Highway</i>	Chapter 51A	Chapter 51A
CD No. 2 <i>Lakewood</i>	Definition in CD: average of FGSE at highest and lowest exterior corners	CD 2 definition of grade to highest roof ridge
CD No. 3 <i>Page Avenue</i>	Chapter 51A	Chapter 51A
CD No. 4 <i>Greiner Area</i>	Chapter 51A	Chapter 51A
CD No. 6 <i>Hollywood / Santa Monica</i>	Chapter 51A	Grade to highest point of structure, except in Tract IIA height is measured from grade to midpoint of roof
CD No. 7 <i>Bishop / Eighth Street</i>	Chapter 51A	Chapter 51A
CD No. 8 <i>North Cliff</i>	Chapter 51A	Chapter 51A
CD No. 9 <i>M Streets</i>	Chapter 51A	Grade to highest point of the structure
CD No. 10 <i>Greenway Parks</i>	Chapter 51A	Grade to midpoint of lowest eave and highest ridge for a gable, hip, or gambrel roof; midpoint of a dome; highest point of any other roof type
CD No. 11 <i>M Streets East</i>	Chapter 51A	Grade to roof ridge
CD No. 12 <i>Belmont Addition</i>	Chapter 51A	Grade to “peak of any roof structure”
CD No. 13 <i>Kessler Park</i>	Chapter 51A	<u>Subarea 1</u> : Finished floor of the first floor to the highest point on the roof ridge; finished floor of first floor must be no less than 12 inches and no more than 30 inches above grade at front façade <u>Subarea 2</u> : Grade to highest point on the roof ridge <u>Subarea 3</u> : Grade to midpoint of vertical distance between lowest eaves and highest point on the roof ridge
CD No. 14 <i>Edgemont Park</i>	Chapter 51A	Grade to highest point of the structure
CD No. 15 <i>Vickery Place</i>	Chapter 51A	Grade to highest point of the structure
CD No. 16 <i>Rawlins</i>	Chapter 51A; finished or average grade may not be altered to be more than one foot above the street level.	Grade to highest point of structure
CD No. 17 <i>Northern Hills</i>	Chapter 51A	Grade to the lowest eave, highest peak of a sloped roof, or top of a flat roof
CD No. 20 <i>Stevens Park</i>	Chapter 51A	<u>Subarea 1</u> : grade to highest peak of a structure or top of a flat structure <u>Subarea 2</u> : grade to midpoint of lowest eaves and highest ridge, midpoint of dome or highest point of any other structure <u>Subarea 3</u> : Chapter 51A, R-7.5(A) standards

Appendix 3 – Comparison Cities

San Antonio:

Height, building. The vertical dimension measured from the average elevation of the finished lot grade at the front of the building to the highest point of ceiling of the top story in the case of a flat roof; to the deckline of a mansard roof; and to the average height between the plate and ridge of a gable, hip or gambrel roof.

[Sec. 35-A101\(b\). - Definitions and Rules of Interpretation.](#)

(c) Height Exceptions. The height limits for the various districts do not apply to church spires, belfries, cupolas, or domes not used for human habitation, nor to chimneys, ventilators, skylights, parapet walls, cornices, solar energy systems, or necessary mechanical appurtenances usually located on the roof level, provided that such features are limited to the height necessary for their proper functioning and do not exceed the limitations of the airport hazard zoning regulations.

[Sec. 35-517. – Building Height Regulations.](#)

Austin:

(49) HEIGHT, when used in reference to a building, means the vertical distance from the average of the highest and lowest grades adjacent to the building to:

- (a) for a flat roof, the highest point of the coping;*
- (b) for a mansard roof, the deck line;*
- (c) or a pitched or hip roof, the average height of the highest gable; or*
- (d) for other roof styles, the highest point of the building.*

(45) GRADE means the horizontal elevation of a finished surface.

[Sec. 25-4-21 - Definitions](#)

HEIGHT LIMIT EXCEPTIONS.

(A) This section provides exceptions to zoning district height limits.

(B) Subsection (C) applies to:

(1) parapet walls, chimneys, vents, and mechanical or safety features including fire towers, stairways, elevator penthouses, heating or cooling equipment, solar installations, and protective covers; and

(2) ornamental towers, cupolas, domes, and spires that are not designed for occupancy.

(C) A structure described in Subsection (B) may exceed a zoning district height limit by the greater of:

- (1) 15 percent;*
- (2) the amount necessary to comply with a federal or state regulation;*
- (3) for a stack or vent, the amount necessary to comply with generally accepted engineering standards; or*
- (4) for a spire, 30 percent.*

[Sec. 25-2-531 – Height Limit Exceptions.](#)

Fort Worth:

(b) Except for multifamily dwellings developed in accordance with the unified residential development provisions of § [6.506](#), the height of a building shall be the vertical distance measured from the curb level to the highest point of the roof surface, if a flat roof; to the deck line of a mansard roof; and to the mean height level between eaves and ridge

for a gable, hip or gambrel roof; provided, however, that where buildings are set back from the street line, the height of the building may be measured from the average elevation of the finished grade along the front of the building.

(c) Height in multifamily residential developments constructed in accordance with the provisions of § 6.506, unified residential development, shall be measured from the top of the finished slab to top of the highest wall top plate.

...

(e) Elevator penthouses or bulkheads; mechanical equipment rooms; cooling towers; tanks; enclosed stairwells; and ornamental cupolas and domes; signs and spires may be erected on buildings to any height not prohibited by any other law, code or regulation.

[Sec. 6.100 Height.](#)

Houston:

Height of the building means the vertical distance above a reference datum measured to the highest point of the coping of a flat roof or to the deck line of a mansard roof or to the average height of the highest gable of a pitched or hipped roof. The reference datum shall be selected by either of the following, whichever yields a greater height of the building:

a. The elevation of the highest adjoining sidewalk or ground surface within a five-foot horizontal distance of the exterior wall of the building when the sidewalk or ground surface is not more than ten feet above the lowest grade

b. An elevation ten feet higher than the lowest grade when the sidewalk or ground surface described in item (a) above is more than ten feet above lowest grade.

The height of a stepped or terraced building is the maximum height of any segment of the building.

[Sec. 41-50. - Definitions](#)

Arlington:

4.1.7. BUILDING HEIGHT

A. Measurement of Primary Structures

The height of a building shall be the vertical distance measured from the average elevation of the finished grade along the front of the building to the highest point of the roof surface of a flat roof; to the deck line of a mansard roof; and to the mean height level between eaves and ridge for a gable, hip, or gambrel roof.

.....

C. Height Exceptions for Appurtenances

Except as specifically provided elsewhere in this Code, the height limitations contained in this Code do not apply to cupolas, flagpoles, chimneys, antennas, heating and ventilation equipment, stairwell towers, lightning rods, ground-mounted wind turbines, solar panels, or similar appurtenances; provided, however, the following:

1. The appurtenance does not interfere with Federal Aviation Regulations;

2. The appurtenance does not extend more than five feet above the maximum permitted building height, except for flagpoles, belfries, and antennas that must be of greater height in order to function;

3. The appurtenance is not constructed for the purpose of providing

additional floor area in the building;

4. The appurtenance complies with the screening requirements for mechanical equipment and appurtenances in Section 5.3.2, Mechanical and Utility Equipment Screening; and

5. The appurtenance is functional.

[Sec. 4.1.7 Building Height](#)

Richardson:

Height means the vertical distance of a building or portion thereof measured from the mean level of the ground surrounding the building to (1) the highest point of the roof's surface if a flat surface, (2) the deck line for a mansard roof, (3) the mean level for a shed roof, or (4) the mean level between eaves and the ridge for hip and gable roofs, and in any event excluding parapet walls not exceeding four feet in height, chimneys, cooling towers, elevator penthouses, mechanical equipment rooms, ornamental cupolas, standpipes, elevator bulkheads, domes or spires.

[Article I. Sec. 2. Definitions.](#)

Plano:

Height

The vertical distance of a building measured from the average grade as measured at the corners of the building prior to berming to (1) the highest point of the roof's surface if a flat surface, (2) the deck line of mansard roofs or (3) the highest point of the ridge for hip and gable roofs and, in any event, including chimneys, cooling towers, elevator bulkheads, tanks, water towers, radio towers, antennas, ornamental cupolas, domes or spires, and parapet walls. (See Sec. 13.600)

[Sec. 8.200 Terms Defined](#)