PROPOSED ZONING ORDINANCE AMENDMENT

Lot Line and Lot Width

PUBLIC HEARING DATES

Planning Commission  December 4, 2019 at 7:30 p.m.
Board of Supervisors  January 28, 2020 at 4:00 p.m.

PREPARED BY
ZONING ADMINISTRATION DIVISION
DEPARTMENT OF PLANNING AND DEVELOPMENT
703-324-1314

October 29, 2019

RJ

Americans with Disabilities Act (ADA): Reasonable accommodation is available upon 7 days advance notice. For additional information on ADA call 703-324-1334 or TTY 711 (Virginia Relay Center).
The proposed amendment is on the 2019 Zoning Ordinance Amendment Priority 1 Work Program and clarifies how lot width is measured on lots that have curved frontage, on through lots, and on reverse frontage lots. The purpose of this amendment is to provide clarity and consistency on the methodology used to determine lot lines and measure lot width.

ZONING ORDINANCE PROVISIONS

What is a Lot Line?
The Zoning Ordinance currently defines lot line as:

LOT LINE: Any boundary line of a lot as defined herein. Where applicable, a lot line shall coincide with a STREET LINE. Where a lot line is curved, all dimensions related to said lot line shall be based on the chord of the arc. [emphasis added]

Lot lines are the basis for various zoning ordinance provisions such as lot width and minimum yard requirements (front, side and rear yard setbacks). A lot line may either be straight or curved and, under the lot line definition when curved, is based on the chord of an arc.

What is Lot Width?
Minimum lot width is one of the Zoning Ordinance lot size standards that ensures orderly development and is applied in a variety of land development plans. Lot width is currently defined in the Zoning Ordinance as:

LOT WIDTH: The width of a lot along a line parallel to the front street line and lying at a distance from said street line equal to the **required minimum front yard** on said lot. In the case of a lot which has an area in excess of five (5) acres, the width may be measured at any point where the minimum lot width is at least 200 feet, provided that such point shall also be where the front yard is established by location of the principal structure. [emphasis added]

The above lot width definition requires lot width to be measured along a line parallel to the front street line and located a distance from the street line equal to the required minimum front yard. Minimum required yards, which include minimum required front yards, are defined in the “Yard” definition as follows:

YARD: Any open space on the same lot with a building or building group lying between the building or building group and the nearest lot line, unobstructed from the ground upward and unoccupied except by specific uses and structures allowed in such open space by the provisions of this Ordinance. On any lot which is occupied by an attached dwelling, no minimum required yard shall be occupied by any part of a vehicular travel way or parking space that is owned and maintained by a homeowner's association, condominium, or by the public.
For the purpose of this Ordinance, there shall be a distinction between 'yard' and 'minimum yard required'. The minimum yard requirements set forth in this Ordinance represent that minimum distance which the principal building(s) shall be set back from the respective lot lines. [emphasis added]

ISSUES

Measuring lot width is straightforward when the lot is rectangularly shaped or has straight front lot lines. However, the measurement becomes more difficult when there is a curved street lot line, such as on cul-de-sacs.

Under the current lot line definition, all dimensions (such as lot width and setbacks) related to curved lot lines are based on the chord of the arc. However, this method is not currently used by industry or staff to measure lot width or setbacks, because in practice it is ambiguous and may, in certain cases, result in measurements that are contrary to the intent of the Zoning Ordinance. Instead, when there is a curved lot line, the predominant practice is to measure lot width based on the actual distance of the arc, and to measure setback and other dimensions based on the actual distance of a line drawn perpendicular from a structure to the nearest point of the arc.

As defined in the dictionary, a chord is a straight line joining two points on a curve. Determining the chord on a curved lot line and verifying lot width based on the chord is problematic. The lot line definition does not describe how the chord is to be determined. That is significant, as there are multiple chords along a curved lot line. Moreover, in certain situations, a chord on a curved lot line could fall completely outside of the lot. Then, given that lot width is measured at the minimum required front lot line, lot width could not be determined based on a literal reading of the definition.

Example of Potential Problematic Chord to Establish Lot Line

Currently, there is a mixture of methods by which one could determine lot width on a lot with curved frontage, including:
• **Arc Method** - A line representing the minimum required front yard is drawn parallel to the curved front lot line and the actual measurement of this line itself (an arc) is used to measure lot width.

![Arc Method Diagram](image.png)

• **Tangent Method** - A line representing the minimum required front yard is drawn parallel to the curved front lot line and a tangent is drawn to this conceptual parallel line to measure lot width. NOTE: This method is helpful only for concave-shaped lots.

![Tangent Method Diagram](image.png)

• **Chord Method** - This is the method required by the Zoning Ordinance and is based on the current lot line definition. Under this method, a line representing the minimum required front yard is drawn parallel to the curved front lot line and a chord is drawn between two points on the curve to measure lot width. NOTE: This method is only helpful for convex-shaped lots.

![Chord Method Diagram](image.png)
Industry representatives have expressed a preference for using the Arc Method. Furthermore, many jurisdictions, including the City of Fairfax, Loudoun County, and Prince William County, use the arc method to measure lot width on curved frontages.

However, not all nearby jurisdictions use the Arc Method. For example, Arlington County uses a lot depth to lot area ratio instead of having a minimum lot width requirement. This approach addresses the overall lot configuration and the compactness of a lot. Montgomery County measures lot width at three different locations on the lot—at the front lot line, the front setback line, and the front building line. This approach also addresses the regularity of the shape of the lot. Fairfax County addresses the shape of a lot by a maximum shape factor requirement. Given the shape factor requirement, it is staff’s opinion that Arlington and Montgomery Counties’ approaches to lot width are not germane to Fairfax County.

PROPOSED AMENDMENT

Lot Width
It is the intent of this amendment to provide clarity and uniformity regarding measuring lot width on lots with curved frontages. After coordination with staff and industry, the Arc Method is the preferred method due to its clarity and widespread applicability. To implement this preferred method, staff is recommending that the sentence containing the “chord of the arc” language be removed from the lot line definition. This will clarify that lot width is to be measured at a line parallel to the front lot line at a distance equal to the minimum required front yard, regardless of whether the frontage of the lot has a linear or curvilinear orientation.
**Measuring Lot Width on Through Lots**

As was noted earlier, lot width is determined by the front street line. However, in the case of a through lot, there are multiple street lines. The following Zoning Ordinance definitions are key in determining lot width on through lots:

**LOT, THROUGH:** An interior lot, but not a corner lot, abutting on two (2) or more public streets, but not including an alley. For the purpose of this Ordinance, a through lot shall be subject to the regulations of an INTERIOR LOT.

**LOT LINE, FRONT:** A street line which forms the boundary of a lot; or, in the case where a lot does not abut a street other than by its driveway, or is a through lot, that lot line which faces the principal entrance of the main building.

A through lot, by definition, is any lot that abuts on two or more public streets, but is not a corner lot, and has two or more front yards. However, the front lot line on a through lot is determined by the orientation of the principal entrance of the main building on the lot. It can be difficult, at the time of subdivision, to predict the final orientation of a future building on a lot and ultimately determine that minimum lot width has been satisfied. The current administrative practice is to allow lot width to be measured from any street line on a through lot.

**PROPOSED AMENDMENT:** To codify common practice, staff is recommending that the lot width definition be modified to specify that, on through lots, lot width may be measured from any street line. The proposed amendment only impacts where lot width is measured on a through lot. The amendment does not impact the through lot minimum yard requirements (setbacks) as the current Zoning Ordinance front yard definition would not be changed with this amendment. The yards lying between the principal building and the two or more public streets on a through lot will continue to be deemed front yards and subject to the minimum front yard setbacks.
Measuring Lot Width on Reverse Frontage Lots

Reverse frontage lots present another unique situation for determining lot width. A reverse frontage lot is defined as:

LOT, REVERSE FRONTAGE: A residential through or corner lot, intentionally designed so that the front lot line faces a local street rather than facing a parallel major thoroughfare.

A reverse frontage lot, by definition, is residential and has one front lot line along a local street. However, reverse frontage lots also abut major thoroughfares, leading to some confusion as to whether the lot line along the major thoroughfare would also be considered a front lot line and, ultimately, be used to measure lot width. Although the reverse frontage lot definition implies that lot width is measured along the local street, the current lot width definition does not specifically state how lot width is measured on reverse frontage lots.

PROPOSED AMENDMENT: To clearly state how lot width is measured on reverse frontage lots, staff recommends that the lot width definition be revised to state that, on reverse frontage lots, lot width is measured from a line parallel to the local street line.

Lot width is measured in the yard facing the local street.
**Certain Provisions Unchanged**

This amendment would not change the current provisions regarding minimum lot width on lots of five acres or greater in area; minimum required yards (setbacks); bulk regulations; lot area; shape factor; or lot, street and yard classifications. These provisions will be reviewed as part of the Zoning Ordinance Modernization (zMOD) effort.

**CONCLUSION**

The Department of Planning and Development staff have coordinated this amendment with staff from the Site Development and Inspections Division of Land Development Services, the County Attorney’s Office, and the County Surveyor. In addition, meetings and outreach with the following stakeholders have occurred:

- Board of Supervisor’s Development Process Committee: September 10, 2019
- Fairfax County Zoning Open House (South County): September 10, 2019
- Northern Virginia Building Industry Association/Commercial Real Estate Development Association (NVBIA/NAIOP); Engineers and Surveyor’s Institute: September 19, 2019
- Planning Commission Land Use Process Review Committee: October 3, 2019

If the amendment is adopted, staff will prepare a technical memorandum that provides guidance to industry on lot width measurements. Specifically, on lots with curved frontages, the length of the arc as measured at the minimum required front yard line must be provided on the plans. The arc length could be provided either in the form of a curve table, or as a measurement on the plan if there is a continuous curve. The arc length is necessary to verify that the minimum lot width requirement has been satisfied. This information is necessary to determine lot width and is readily available given the computerized software that is currently being used in plan design.

The proposed amendment provides clarity and consistency on the methodology used to determine lot lines and to measure lot width on lots with curved street frontages, through lots, and reverse frontage lots. The proposed Arc Method to measure lot width is the most equitable as it is the same for all lots regardless of the type of lot frontage. Therefore, staff recommends adoption of the proposed amendment with an effective date of 12:01 a.m. on the day following adoption.
PROPOSED AMENDMENT

This proposed Zoning Ordinance amendment is based on the Zoning Ordinance in effect as of October 29, 2019, and there may be other proposed amendments which may affect some of the numbering, order or text arrangement of the paragraphs or sections set forth in this amendment, as other amendments may be adopted prior to action on this amendment. In the case of such an event, any necessary renumbering or editorial revisions caused by the adoption of any Zoning Ordinance amendments by the Board of Supervisors prior to the date of adoption of this amendment will be administratively incorporated by the Clerk in the printed version of this amendment following Board adoption.

Amend Article 20, Ordinance Structure, Interpretations, and Definitions, Part 3, Definitions, by revising the lot line, front lot line and lot width definitions to read as follows:

LOT LINE: Any boundary line of a LOT as defined herein by this Ordinance. Where applicable, a lot line shall will coincide with a STREET LINE. Where a lot line is curved, all dimensions related to said lot line shall be based on the chord of the arc.

LOT WIDTH: The width of a lot along length of a line parallel to the front street line and lying within the lot at a distance from said the street line equal to the required minimum front yard on said the lot.

In the case of a lot which that has an area in excess of five (5) acres, the width may be measured at any point where the minimum lot width is at least 200 feet, provided that such point shall is also be where the front yard is established by the location of the principal structure. On reverse frontage lots, lot width is measured in the yard facing the local street. On through lots, lot width may be measured from any street line.