



Determining Exterior Volume

Exterior Volume is defined as the total space occupied by all structures located above *average grade*. Exterior Volume is expressed in cubic feet and is measured from the exterior wall and roof surfaces of each building. Where the *average grade* line is beneath a building, the exterior walls of the building are projected down to *average grade* to calculate its volume. Portions of a building located below average grade are excluded from exterior volume. Exterior Volume includes all dwellings, guesthouses, subordinate units, garages, carports, chimney structures, storage sheds, projecting windows and covered porches.

For that portion of any balcony or deck located more than 18" but less than five feet above existing or final grade, the space measured from the top of any rail or enclosing walls down to either grade shall count as Exterior Volume. For balconies and decks serving the second floor or located five feet or more above grade, the space measured from the floor or underside surface of the balcony or deck to the top of any rail or enclosing walls, counts as Exterior Volume.

Exterior Volume excludes the volumes in and under arbors, trellises and roof eaves. That portion of any deck or balcony located within 18" of *existing or final grade* is excluded from exterior volume. For building elements not addressed by this definition, the Planning Commission shall determine whether an element counts as volume based on its perceived contribution to mass and bulk as seen from any neighboring site or from the street.

The Community Planning and Building Department, per Resolution No. 2002-16, will send the architectural design plans to a City-retained architect/engineer to calculate the volume. A deposit will be collected at the time of application submittal and the unused balance will be returned to the applicant.

Exterior Volume Handout



Allowed Volume Worksheet (include with application materials)

Project Address: _____ **Site Area:** _____

Property Owner Name(s): _____

1. Total Base Floor Area Allowed (not including basement bonus): _____ sq. ft.

2. Total Base Floor Area Proposed (not including basement bonus): _____ sq. ft.

<u>PROPOSED AREAS</u>				<u>ALLOWED VOLUMES</u>	
a. One Story Floor Area (3:12 or greater):		sq. ft.	X(12)=		cu. ft.
b. One Story Floor Area (less than 3:12):		sq. ft.	X(11)=		cu. ft.
c. Two Story Floor Area (3:12 or greater):		sq. ft.	X(11)=		cu. ft.
d. Two Story Floor Area (less than 3:12):		sq. ft.	X(10)=		cu. ft.
e. Unused floor area or basement floor area not including bonus:		sq. ft.	X(12)=		cu. ft.
Total Allowed Volume			=		cu. ft.

Example: A 1,700 square foot residence on a 4,000 square foot site. The residence includes 1,200 sq. ft. on the main level and 500 sq. ft. on the upper level, both with a roof pitch of 6:12.

<u>PROPOSED AREAS</u>				<u>ALLOWED VOLUMES</u>	
a. One Story Floor Area (3:12 or greater):	1,200	sq. ft.	X(12)=	14,400	cu. ft.
b. One Story Floor Area (less than 3:12):		sq. ft.	X(11)=		cu. ft.
c. Two Story Floor Area (3:12 or greater):	500	sq. ft.	X(11)=	5,500	cu. ft.
d. Two Story Floor Area (less than 3:12):		sq. ft.	X(10)=		cu. ft.
e. Unused floor area or basement floor area not including bonus:	100	sq. ft.	X(12)=	1,200	cu. ft.
Total Allowed Volume			=	21,100	cu. ft.

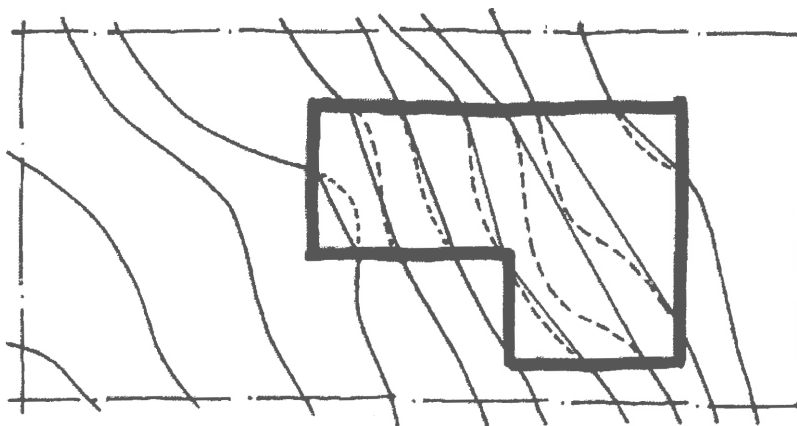


Determining Average Grade

Average grade is defined as a horizontal line approximating the ground elevation through each building on a site, used solely for calculating the *exterior volume* of buildings. Average grade is calculated separately for each building.

Procedures for Calculating Average Grade:

1. Plot the ground level perimeter of the building on a topographic map of the site using 1-foot contour intervals. Assign an elevation of "zero" for the lowest contour line that passes through the building perimeter.
2. For each contour line that intersects the building perimeter, draw a straight line through the building that connects the point of intersection to where the same contour line emerges from the building perimeter (see figure-2, below).
3. For each line drawn in step #2 multiply its length by its elevation (above the "zero" contour line) and then sum all results.
4. Divide the sum from step #3 by the sum of the lengths of all lines drawn. The resulting elevation above the "zero" contour line is extended as a horizontal line through the building as average grade.



Existing or natural grade is determined by topographic contours on site. Connect grades that intersect building walls with straight lines through the building and do not consider undulations in grade within the building footprint.