

## **ZONING CALCULATIONS**

May 9, 2007 the City of Park Ridge adopted a new Zoning Ordinance. This worksheet is amended to include the changes. Reference may be made to the City of Park Ridge Web site [www.parkridge.us](http://www.parkridge.us) for the Zoning Ordinance.

The attached worksheets are to be used in calculating **Floor Area Ratio (FAR)**, **Lot Coverage**, and **Open Space**. These worksheets should be completed and submitted with any permit application or variance application. This includes, but is not limited to, the construction of a single-family dwelling, a room addition, dormer addition, enclosed porch, covered porch, deck, and garage. Please follow the attached example when completing the worksheets. If the worksheets are not submitted with the permit application or variance application or if they are completed incorrectly, it will delay the processing of the permit or variation application. If you have any questions about the calculations, please call the Zoning Division at (847) 318-5280. Please refer to **Section 7.3** and **7.5** of the **Zoning Ordinance** for the floor area, lot coverage and open space regulations of residential districts.

### **INSTRUCTIONS- CALCULATING GROSS FLOOR AREA RATIO (F.A.R.)**

*Each step requires submission of a diagram. You must either submit diagrams as per the attached example, draw diagrams on the calculation sheet in each appropriate section, or use the CAD system to calculate size as per the attached example.*

<b>ADDRESS:</b>	
<b>PROPERTY OWNER:</b>	
<b>TELEPHONE NUMBER OF OWNER:</b>	
<b>ARCHITECT:</b>	
<b>TELEPHONE NUMBER OF ARCHITECT:</b>	<b>DATE:</b>

**This form is amended from time to time, please be aware if there is any conflict the more current Zoning Ordinance takes precedence.**

**ARCHITECT'S SEAL:**

**Revised 06/21**

**STEP 1** Compare your plat of survey to the actual building. Note any differences between the actual site and what is indicated on the plat of survey. The survey must include all additions to the principal structure, any detached buildings, whether porches are enclosed or roofed, sheds, decks, etc. It is important that the plat accurately represents the existing house and accessory buildings. Should you find that any discrepancies exist, it will be necessary to have the survey updated. A survey older than six (6) months will require the submittal of the City of Park Ridge **affidavit of accuracy form**. This form is available from the City web site at [www.parkridge.us](http://www.parkridge.us).

**STEP 2** Calculate the lot area. The plat of survey may include the total lot area, however, in some cases such as rectangular lots, the applicant is allowed to calculate the lot area. Indicate in the Lot Area Calculation Section below, how the lot area was obtained. Use a diagram if necessary.

LOT AREA CALCULATION
Lot Area from Survey _____ Or Calculated Lot Area _____. If you calculated the lot area, draw a diagram below and show how the area was calculated.

**STEP 3** Calculate any basement area that is more than 50% above grade. If there is no basement area greater than 50% above grade go on to Step 4.

<b>FLOOR AREA of EXISTING BASEMENT MORE THAN 50% ABOVE GRADE</b>
Calculated Area_____. Show, using diagrams, how it was obtained.

<b>FLOOR AREA of PROPOSED BASEMENT MORE THAN 50% ABOVE GRADE*</b>
Calculated Area_____ . Show, using diagrams, how it was obtained.
<b>TOTAL (Existing &amp; Proposed Area of Basement &gt; 50% Above Grade):</b>

**STEP 4** Calculate the first floor area from the outside wall. That part of the Floor Area where the height from floor to ceiling is in excess of twelve (12) feet shall be counted twice. (i.e., vaulted ceilings, cathedral ceilings, 2-story foyers, etc.). **Accessory structures are included in this calculation** (e.g., attached garages and porches) Section 7.5 states any “Accessory structures located on the lot...” are to be included in the FAR measurement. *FAR exemptions apply in certain cases, refer to section 7.5 for specifics or reach out to staff.*

EXISTING FIRST FLOOR AREA & ACCESSORY STRUCTURES
Calculated Area_____. Show the calculations using diagrams, and how they were obtained.

**NEW CONSTRUCTION OR PROPOSED ADDITIONS TO FIRST FLOOR AREA**

Calculated Area\_\_\_\_\_. Show, using diagrams, and how they were obtained.

**TOTAL (Existing & Proposed First Floor Area):**

**STEP 5** Calculate the area of the second story from the outside walls. That part of the Floor Area where the height from floor to ceiling is in excess of twelve (12) feet shall be counted twice. (i.e., vaulted ceilings, cathedral ceilings, 2-story foyers, etc.). It is also important to include any upper story areas that may extend beyond the first floor footprint of the house (i.e. cantilevered area). If there is no Second Story, go to Step 6.

EXISTING SECOND FLOOR AREA
Second Floor Area _____. Show calculations, using diagrams, and how they were obtained.

## NEW CONSTRUCTION OR PROPOSED ADDITIONS TO SECOND FLOOR AREA

Second Floor Area \_\_\_\_\_. Show calculations, using diagrams, and how they were obtained.

**TOTAL (Existing & Proposed Second Floor Area):**



**STEP 6** Applies only to houses with half-stories, or finished attics. All finished attic space is counted.

EXISTING THIRD FLOOR AREA
Floor Area _____ Show calculations, using diagrams, and how they were obtained.

NEW CONSTRUCTION OR PROPOSED ADDITIONS TO THIRD FLOOR AREA
Floor Area _____ Show calculations, using diagrams, and how they were obtained.
TOTAL (Existing & Proposed Third Floor Area):

**STEP 7** applies to unfinished attics. Calculate the area of any unfinished attic that has headroom of seven feet or more.

EXISTING UNFINISHED ATTIC FLOOR AREA
Unfinished Attic Area with headroom 7' or more _____. Show calculations, using diagram, and how they were obtained.

<b>FLOOR AREA OF NEW CONSTRUCTION OR PROPOSED ADDITIONS TO UNFINISHED ATTIC</b>
Unfinished Attic Area with headroom 7' or more_____. Show calculations, using diagram, and how they were obtained.
<b>TOTAL (Existing &amp; Proposed Unfinished Attic Area):</b>

**STEP 8** Calculate the area of the detached garage. Detached garages shall not exceed 720 square feet. Detached garages of 400 square feet or less of total floor area and located entirely within the rear thirty feet of the lot shall not be included in the total gross floor area. If a detached garage located in the rear yard exceeds 400 square feet in area, the first 400 square feet shall be excluded from the total gross floor area, but the remainder of the garage's floor area shall be included in the calculation. (**See section 7.5.c.2.b**)

The floor area of the second story of a detached garage may be utilized for storage; the area having headroom of 7 feet or more shall be counted in the total maximum floor area ratio.

**NOTE:** The 400 square foot exclusion for detached garages located in the rear 30 feet of the lot does not exclude the garage from other bulk requirements (i.e., lot coverage and open space).

EXISTING DETACHED GARAGE FLOOR AREA	
DIMENSIONS	AREA
EXISTING DETACHED GARAGE TOTAL:	

[illegible]

**DIMENSIONS:**

AREA:

**STEP 9** is the actual calculation of the Floor Area Ratio (F.A.R.). This is done by adding the results from STEPS 3 through 8 and dividing that total by the lot area obtained in STEP 2. The resulting number is the F.A.R. for the property. The maximum allowable F.A.R. is 45% for both R1 and R2 zoned property.

Below is a calculation worksheet for use by applicants for calculating the Floor Area Ratio of existing and proposed structures. This sheet must be completed, signed and stamped by the architect, and submitted to the City of Park Ridge along with the Application for a Building Permit and all other required items.

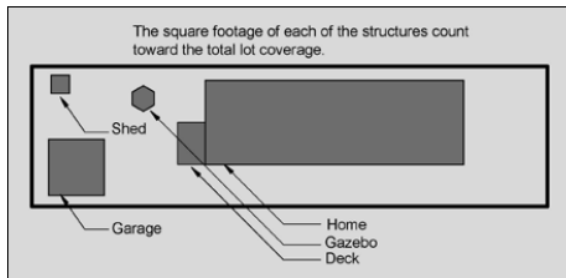
<b>FLOOR AREA RATIO CALCULATION</b>			
1. Basement area more than 50% above grade	(Step 3)	=	
2. First floor* <b>total</b> area (proposed + existing)	(Step 4)	=	
Including <b>accessory structures</b> (e.g., porch, attached garage)			
3. Second floor* <b>total</b> area (proposed + existing)	(Step 5)	=	
4. Third floor <b>total</b> area (proposed + existing)	(Step 6)	=	
5. Attic floor <b>total</b> area (proposed + existing)	(Step 7)	=	
(Any finished space is included. Only unfinished below 7 ft. is exempt)			
6. Detached garage <b>total</b> area	(Step 8)	=	
(Include 2 <sup>nd</sup> floor if applicable)			
<b>SUB-TOTAL</b>		=	
LESS TOTAL ALLOWANCES		=	
(Porches & detached garages, see Section 7.5.c)			
<b>A TOTAL PROPOSED FLOOR AREA</b>		=	
<b>B ALLOWABLE Building Floor Area</b>		=	
(Multiply the lot area in step 2 by the allowable .45 F.A.R.)			
Is the total proposed floor area (A) $\leq$ allowable building floor area (B)		=	YES ( ) NO ( )
<b>The building F.A.R. may not exceed the allowable building F.A.R.</b>			

**\*Reminder – Section 7.5.B.1: That part of the floor area where the height from floor to ceiling is in excess of 12 feet shall be counted twice.**

**Step 10** is the calculation for lot coverage.

- (Section 16.3) *Lot Coverage*. The portion of a lot that is occupied by buildings or structures, including accessory structures, expressed as a percentage of total lot area. Lot coverage shall not include driveways, parking spaces, patios, sidewalks, swimming pools or water gardens and other similar surfaces (See Figure 42: Lot Coverage)

**FIGURE 42: LOT COVERAGE**



The maximum allowable lot coverage in the R-1 or R-2 district is 35% of the lot size.

Calculate the area of the footprint (ground coverage) of the existing buildings or structures currently on the property. This information can be obtained from the plat of survey (if any additions or structures have been added to the property an updated survey is required). You then add the footprint (ground coverage) of any proposed buildings or structures. Insert the **total** (existing + proposed) lot coverage calculations in the table below.

LOT COVERAGE CALCULATIONS		
LOT AREA (see Step 2) =		
Footprint (Ground Coverage) area of home including attached garage	=	
Footprint (Ground Coverage) area of detached garage	=	
Footprint (Ground Coverage) area of decks, porches	=	
Footprint (Ground Coverage) area of shed, gazebo, pergola, greenhouse, etc.	=	
TOTAL LOT COVERAGE	=	
ALLOWABLE LOT COVERAGE (Multiply Lot Area in step 2 by 35%)	=	
Total lot coverage may not exceed the allowable lot coverage (Total lot coverage $\leq$ allowable lot coverage)		COMPLIES YES ( ) NO ( )



**Step 11** is the calculation for Open Space.

In addition to the previous requirements the Zoning Ordinance requires that a certain amount of lot area be devoted to open space.

**Open space** is defined as (section 16.3): *Land within a zoning lot devoted to landscaping, lawns and other similar uses. Open space shall not include driveways, streets, parking lots or spaces, sidewalks, plazas, terraces, patios, swimming pools, decks or other similar impervious or semi-impervious surfaces.*

### **Section 7.3**

Open space requirement for the **R1** District is **45%** of total lot area

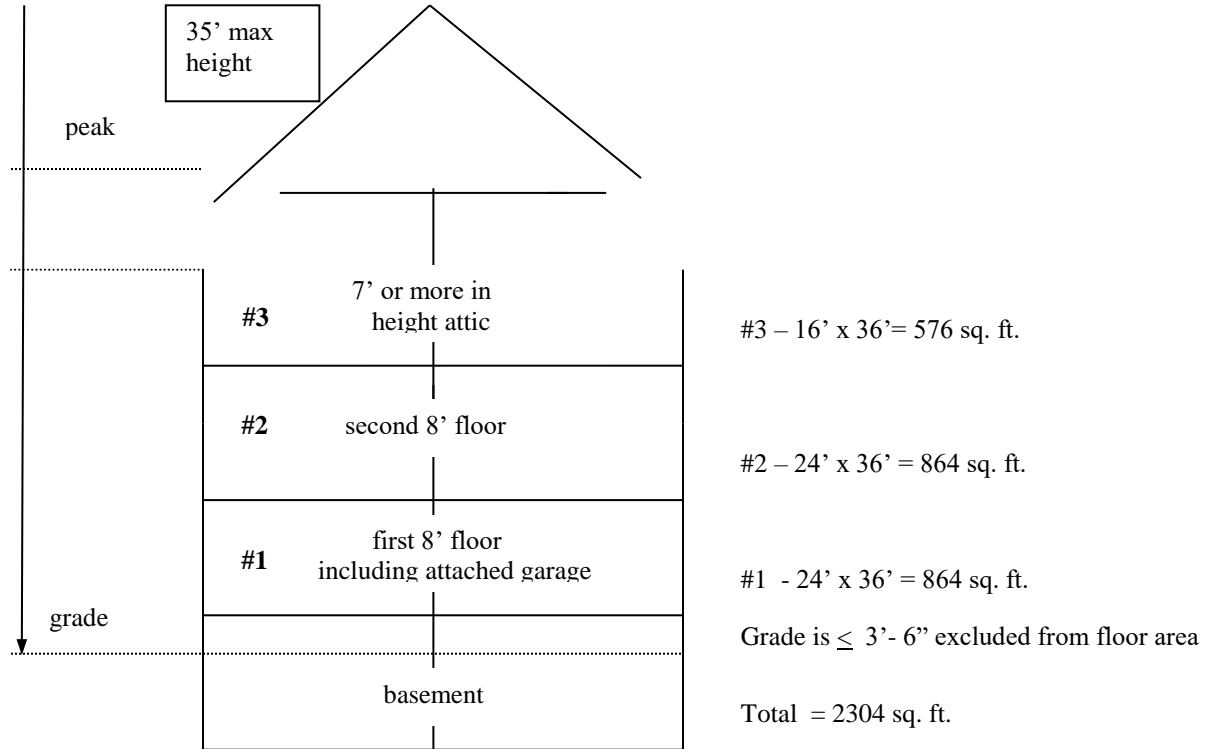
Open space requirement for the **R2** District is **40%** of total lot area

To calculate open space you must first determine the ground coverage of all structures (buildings) on the property (i.e., Lot Coverage – step 10). Then you must calculate all impervious surfaces such as driveways, walkways, patios, decks, stoops, and swimming pools. **Please do this on the site plan and show the square feet of each particular area.** Break down the areas into sections and label them with dimensions if needed so that staff can follow your methodology in obtaining your result. Then fill in the following information:

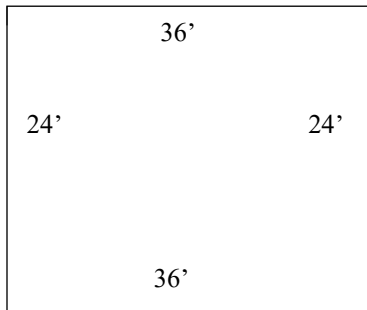
OPEN SPACE CALCULATIONS		
<b>LOT AREA (see Step 2)</b>	=	
<b>Required Open Space</b> Multiply <b>.45</b> for <b>R1</b> Zoning or <b>.40</b> for <b>R2</b> Zoning by the Lot Area (step 2) (% required open space X the area of lot)	=	
Area of <b>Lot Coverage</b> by all <u>buildings and structures</u> (Step 10)	=	
Area of <b>Impervious Surface</b> (not including Lot Coverage) The portion of a site occupied by structures, pavement or other surfaces that do not allow for the absorption of water.	=	
<b>TOTAL</b> (Area of Lot Coverage + Area of impervious surface)	=	
<b>Total Open Space:</b> Subtract the <b>total</b> above from <b>lot area</b> (Lot area – total lot coverage)	=	
<b>Total open space must be equal to or greater than the Required Open Space</b> (Total open space $\geq$ required open space) <div style="float: right;"> <b>COMPLIES</b>      <b>YES ( ) NO ( )</b> </div>		

## SAMPLE

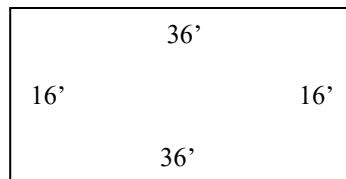
### ABBREVIATED F.A.R. CALCULATIONS FOR A 2 STORY HOUSE



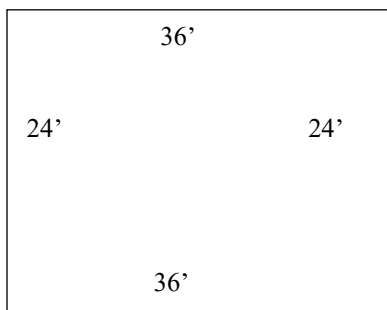
#1 first floor plan



#3 attic plan



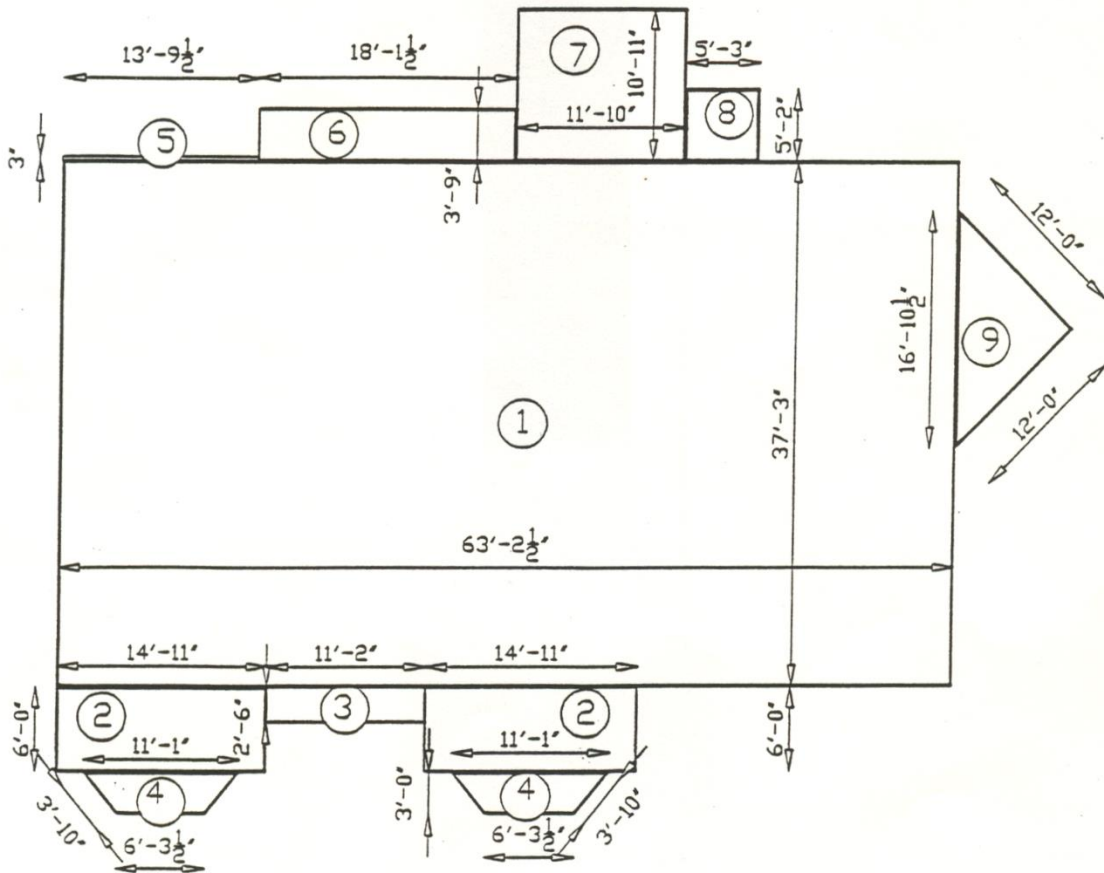
#2 second floor plan



Architect to provide proposed floor layout for new construction and proposed and existing layout for additions. Existing should be labeled accordingly so it can be differentiated from the new addition

# **SAMPLE USING CAD**

## **FIRST FLOOR**

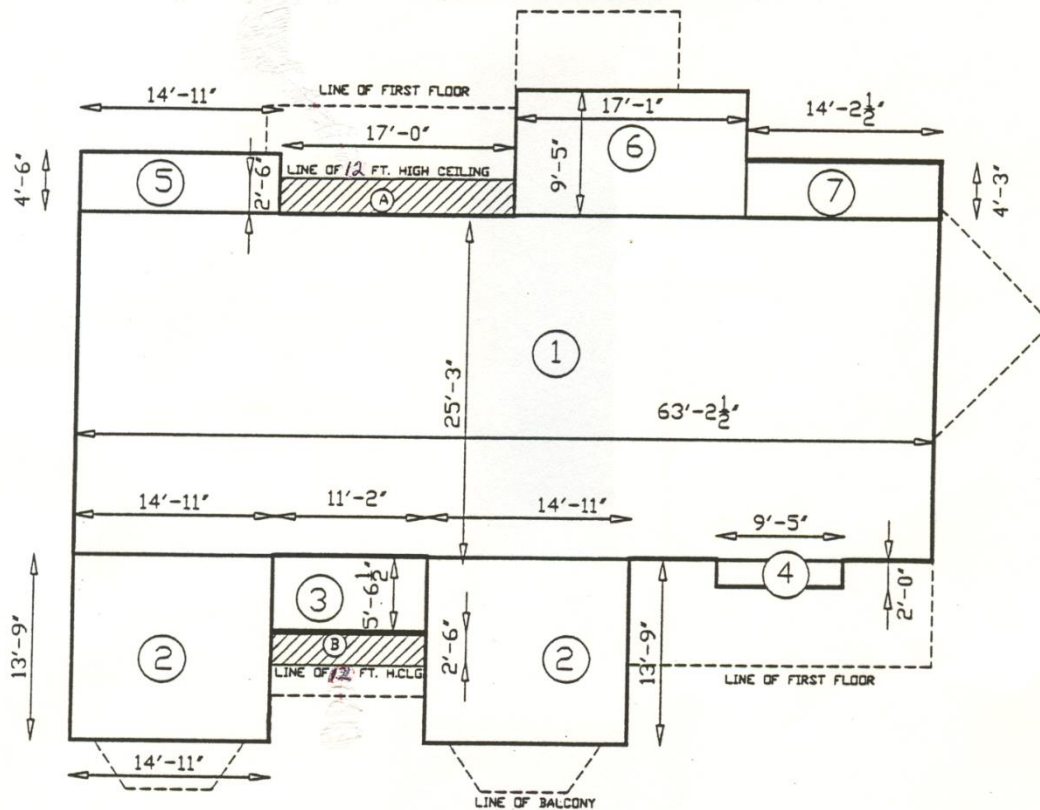


- |   |                                                                |   |                                                |
|---|----------------------------------------------------------------|---|------------------------------------------------|
| ① | $63'-2 \frac{1}{2}' \times 37'-3' = 2354.556$                  | ⑤ | $13'-9 \frac{1}{2}' \times 0'-3' = 3.448$      |
| ② | $14'-11' \times 6'-0' = 89.500$                                | ⑥ | $18'-1 \frac{1}{2}' \times 3'-9' = 67.969$     |
| ② | $14'-11' \times 6'-0' = 89.500$                                | ⑦ | $11'-10' \times 10'-11' = 129.180$             |
| ③ | $11'-2' \times 2'-6' = 27.92$                                  | ⑧ | $5'-3' \times 5'-2' = 27.125$                  |
| ④ | $\frac{(11'-1' + 6'-3 \frac{1}{2}')}{2} \times 3'-0' = 26.062$ | ⑨ | $\frac{1}{2} \times 12'-0' \times 12'-0' = 72$ |
| ④ | $\frac{(11'-1' + 6'-3 \frac{1}{2}')}{2} \times 3'-0' = 26.062$ |   |                                                |

**TOTAL AREA' - 2912.975 SQ. FT.**

# SAMPLE USING CAD

## SECOND FLOOR



- ① 25'-3"x63'x-2 1/2"= 1596.041
- ② 14'-11"x13'-9"= 204.237
- ② 14'-11"x13'-9"= 204.237
- ③ 11'-2"x5'-6 1/2"= 61.889
- ④ 9'-5"x2'-0"= 18.883
- ⑤ 14'-11"x4'-6"= 67.125
- ⑥ 9'-5"x17'-1"= 160.868
- ⑦ 14'-2 1/2"x4'-3"=60.391

AREA OF CEILING MORE THAN 12' LESS THAN 18'

- ① 17'-0"x2'-6"= 42.5
- ② 11'-2"x2'-6"= 28.0

TOTAL = 70.5 SQ. FT.

TOTAL AREA - 2373.671 SQ. FT.