

Housing Unit Density Calculation Examples

20 units per acre

A density designated in the Housing Element of 20 units per acre is the minimum density where potential housing units may be considered by the State HCD as counting towards the Regional Housing Needs Assessment (RHNA) low and very low income categories. Note that this is intended to take into account the nature of small communities, in that it is a lower minimum density than the State requires for larger cities, of population of 25,000 or more; in these larger cities 30 units per acre is the minimum density to count towards the low and very low income categories.

Since 20 units per acre is a minimum density and partial housing units cannot be recognized, all fractions are rounded up to the nearest whole number.

Note also that the result of rounding up a number of small lots yields a higher minimum density than rounding up larger lots (of equal total acreage). This is demonstrated by Examples 1 and 3 below. In these examples a 5,000 sq ft lot would yield 3 housing units as a minimum (so two 5,000 sq ft lots would yield 6 housing units) and a single 10,000 sq ft lot would yield 5 housing units as a minimum.

Given:

**1 acre = 43,560 square feet (sq ft) and
20 units/acre as a minimum density**

1. Example Lot Size = 5,000 sq ft lot

$$\frac{43,560 \text{ sq ft}}{1 \text{ acre}} \times \frac{1 \text{ acre}}{20 \text{ units}} = 2,178 \text{ sq ft/unit}$$

$$\frac{5,000 \text{ sq ft lot}}{2,178 \text{ sq ft/unit}} = 2.29 \text{ units (Round up to 3 units)}$$

2. Example Lot Size = 7,500 sq ft lot

$$\frac{43,560 \text{ sq ft}}{1 \text{ acre}} \times \frac{1 \text{ acre}}{20 \text{ units}} = 2,178 \text{ sq ft/unit}$$

$$\frac{7,500 \text{ sq ft lot}}{2,178 \text{ sq ft/unit}} = 3.44 \text{ units (Round up to 4 units)}$$

3. Example Lot Size = 10,000 sq ft lot

$$\frac{43,560 \text{ sq ft}}{1 \text{ acre}} \times \frac{1 \text{ acre}}{20 \text{ units}} = 2,178 \text{ sq ft/unit}$$

$$\frac{10,000 \text{ sq ft lot}}{2,178 \text{ sq ft/unit}} = 4.59 \text{ units (Round up to 5 units)}$$

The thresholds for whole units at 20 units per acre are as follows:

- 2178 sq ft = 1 unit
- 4356 sq ft = 2 units
- 6534 sq ft = 3 units
- 8712 sq ft = 4 units
- 10,890 sq ft = 5 units
- 13,068 sq ft = 6 units** (A 6 unit development is the point at which the Brisbane Municipal code requires provision for low income housing. That is generally 14% to 16% in the affordable categories. There are no properties, with potential for new infill, in the current R-2 or R-3 zoning districts where 6 units would be required as the minimum.)

29 units per acre

The current maximum density, by Brisbane Municipal Code, in the R-3 zoning district is 1 unit per 1,500 sq ft (or 29.04 units per acre). As a maximum density, fractions of housing units are rounded down to the nearest whole number. In the first few alternatives (A, B and C) where 29 units per acre was suggested as both a possible maximum and minimum in the R-3 district, the fractions would also be rounded down, as long as the result would still yield a number that is at or above the State required minimum of 20 units per acre.

Note that the result of rounding down the number of units (3) on the 5,000 sq ft lot at 29 units per acre yields the same result as rounding up at the minimum of 20 units per acre; whereas for larger lots the spread in the number of units widens between the maximum and minimum densities.

Given:

1 acre = 43,560 square feet (sq ft) and

1,500 sq ft per unit as a maximum density, per current BMC (ie: 29.04 units per acre)

1. Example Lot Size = 5,000 sq ft lot

$$\frac{43,560 \text{ sq ft}}{1 \text{ acre}} \times \frac{1 \text{ acre}}{29.04 \text{ units}} = 1,500 \text{ sq ft/unit}$$

$$\frac{5,000 \text{ sq ft lot}}{1,500 \text{ sq ft/unit}} = 3.33 \text{ units (Round down to 3 units)}$$

2. Example Lot Size = 7,500 sq ft lot

$$\frac{43,560 \text{ sq ft}}{1 \text{ acre}} \times \frac{1 \text{ acre}}{29.04 \text{ units}} = 1,500 \text{ sq ft/unit}$$

$$\frac{7,500 \text{ sq ft lot}}{1,500 \text{ sq ft/unit}} = 5 \text{ units (Total equals 5 units)}$$

3. Example Lot Size = 10,000 sq ft lot

$$\frac{43,560 \text{ sq ft}}{1 \text{ acre}} \times \frac{1 \text{ acre}}{29.04 \text{ units}} = 1,500 \text{ sq ft/unit}$$

$$\frac{10,000 \text{ sq ft lot}}{1,500 \text{ sq ft/unit}} = 6.66 \text{ units (Round down to 6 units)}$$

The thresholds for whole units at 29 units per acre are as follows:

- 1500 sq ft = 1 unit
- 3000 sq ft = 2 units
- 4500 sq ft = 3 units
- 6000 sq ft = 4 units
- 7500 sq ft = 5 units
- 9000 sq ft = 6 units** (A 6 unit development is the point at which the Brisbane Municipal code requires provision for low in come housing. That is generally 14% to 16% in the affordable categories.)