CDG
CANNON
DESIGN
GROUP

March 24, 2021

Mr. Phillip Brennan, Associate Planner, AICP
Department of Community Development
City of San Mateo
330 West 20th Avenue
San Mateo, CA 94403-1388

RE: ADU Illustrations

Dear Phillip:

The attached illustrations depict alternative two-story ADU unit approaches with the following assumptions:

- Existing Grade: 8 inches below the finished first floor line.
- Maximum Plate Height: 16 feet.
- Maximum Building Height: 24 feet.
- Minimum Ceiling Height: 7 feet over not less than 50% of the floor area.
- Second Floor Structure Depth: 12 inches.
- Building Footprint: 20 feet x 30 feet.
- *Note: Per CRC R305.1(1) "For rooms with sloped ceilings, the required floor area of the room shall have a ceiling height of not less than 5 feet (1524 mm) and not less than 50 percent of the required floor area shall have a ceiling height of not less than 7 feet (2134 mm)."*
- *Note: Illustration dimensions are approximate, and may vary based on roof slope, building dimensions and construction details.*
- *Note: The City of San Mateo measures building height from the structure's adjacent natural grade. The illustrationsassume that natural grade would be 8 inches below the finished first floor level, but this dimension may vary on-site which would impact the actual interior height and clearance measurements.*

SUMMARY: Based on the City's proposed ADU height parameters, two-story ADU units would be feasible, but with some limitations in certain design configurations as described in this memorandum.

FLAT ROOF

A two story ADU is technically feasible with a flat roof, but the maximum 16-foot plate height limit would require ceiling heights lower than the normal minimum height of 8 feet.

ADU OVER ONE CAR GARAGE

A two story ADU with a standard gable roof would be feasible within the minimum 7-foot second floor ceiling height. The side wall height would be close to this minimum because of the height measurement criteria noted above, but higher clearances would be possible with cathedral or coffered ceilings, as shown on the illustration. A few alternative plan layouts would be possible, but the most finished-looking structure would follow a form similar to that shown in the illustration. An addition could be constructed adjacent to the garage with an interior stair joining the upper and lower levels. Options include:

- A two story ADU with additional space included over the garage.
- A two story ADU confined to the dimensions of the new construction.
  Exterior deck spaces potentially available over the garage portion of the structure.
- A two story ADU with additional space included over the garage. Bedrooms would be typically located on thesecond level overlooking a ground floor living and dining area with a two-story tall ceiling.
- A one story ADU confined to the second level with the additional first floor space combined with the garage(e.g., work or storage space) or dedicated to another use.

STANDARD GABLE SLOPED ROOF

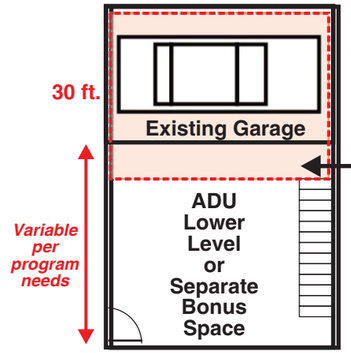
A two story ADU with a standard gable roof would be feasible within the minimum 7-foot ceiling height. The side wall height would be close to this minimum because of the height measurement criteria noted above, but higher clearances (~9-10 feet) would be possible with cathedral or coffered ceilings, as shown on the illustration. For comparison purposes, the floor plan illustration shows the approximate extent of the floor area with 8 foot or more clearances. It is likely that with the use of a cathedral or coffered ceiling, the lower edge heights would have little negative impact on the unit's livability.

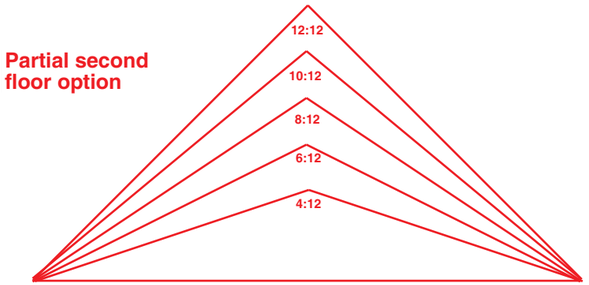
DORMERS FOR ADDITIONAL HEIGHT OPTION

This approach is the same as that shown for the Standard Gable Sloped Roof, but shed dormers could be added to increase the ceiling heights over much of the floor area.

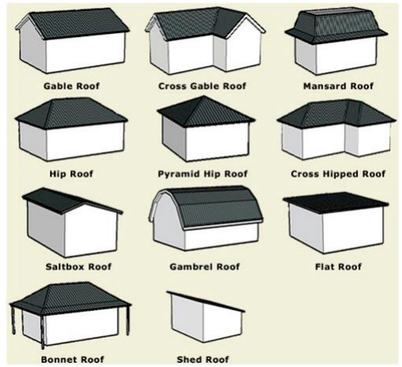
Sincerely,
CANNON DESIGN GROUP

Larry L. Cannon

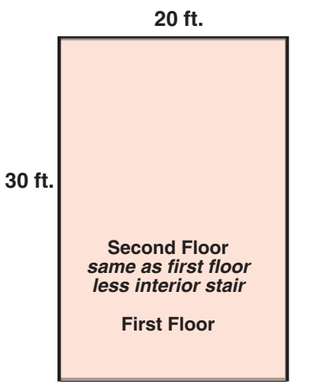


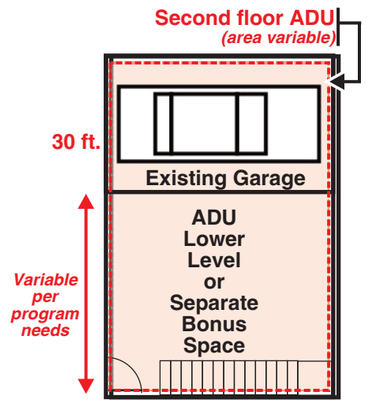


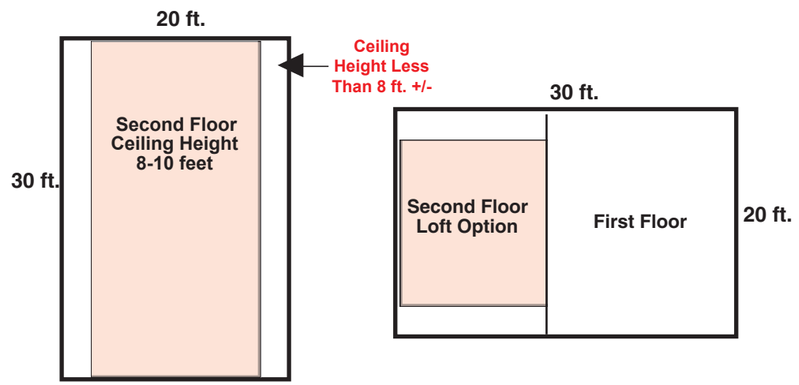
Roof Slopes

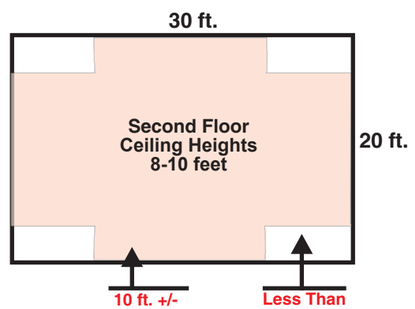


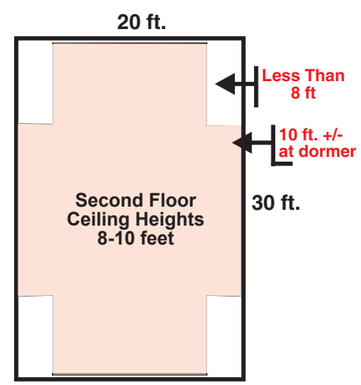
Roof Forms

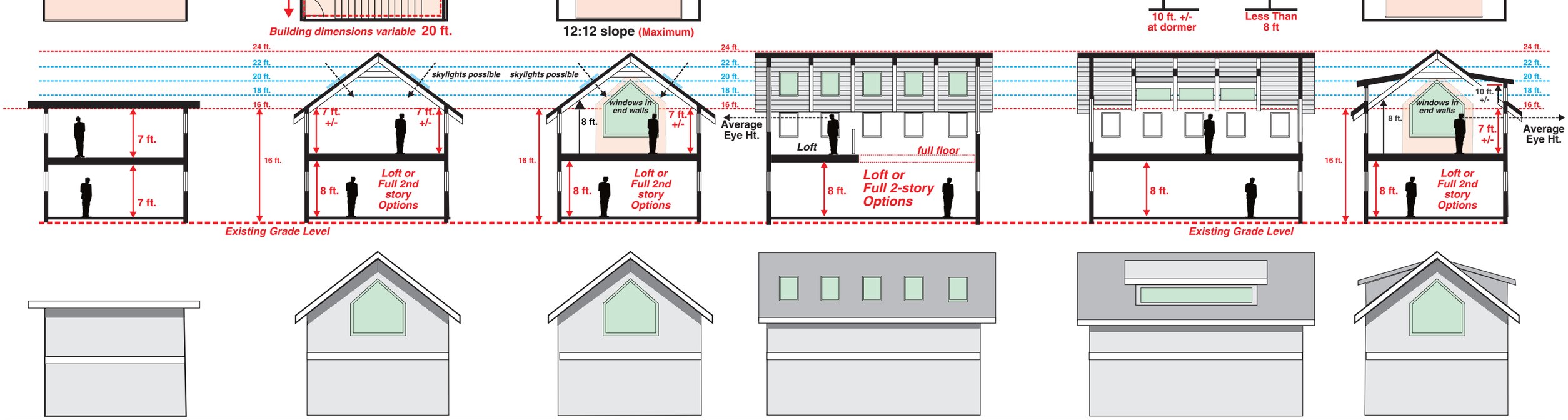












FLAT ROOF

ADU OVER ONE CAR GARAGE

STANDARD GABLE SLOPED ROOF

DORMERS FOR ADDITIONAL HEIGHT OPTION

Note: Conditions may vary according to building width and roof slope

Note: Floor depth structure assummed: 12 inches

TWO STORY

ADU STUDIES

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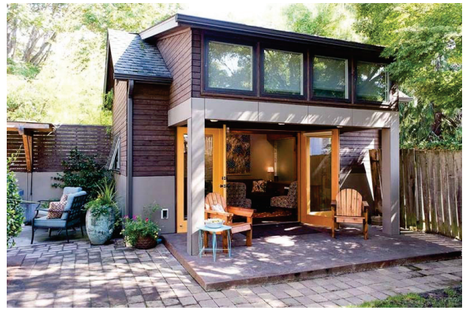

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TWO STORY FORM EXAMPLES

ADU STUDIES

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