



## Sustainable Roof Measures

### West Hollywood Green Building Program

Effective Date January 1, 2020	Relevant Ordinance Green Building Ordinance
	Relevant Code Section Section 19.20.060 - Green Building Requirements

Section 19.20.060 of the West Hollywood Zoning Code mandates the Planning Director to issue and adopt such rules, regulations and interpretations as are in the Director's opinion, necessary to administer and enforce the provisions of the Zoning Code.

#### PURPOSE

Productive use of rooftops will maximize environmental benefits in the City of West Hollywood.

#### APPLICABILITY

The Sustainable Roof requirements apply to all residential, non-residential, and mixed-use projects of the following types:

1. New projects with a gross floor area of 10,000 square feet or more;
2. Major remodel that causes the building to become 10,000 square feet or more;
3. Applies to development permit applications submitted after January 1, 2020.

#### ALLOWED SUSTAINABLE ROOF USES

Projects shall install at least one of the following sustainable roof measures:

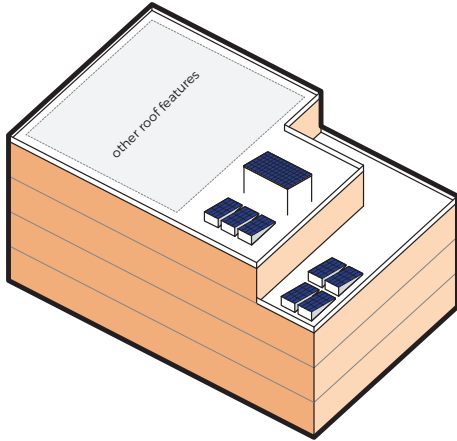
1. Photovoltaics (PV), sized to offset a minimum of fifteen (15) percent of the building's total estimated electricity usage, or
2. Solar thermal systems (i.e., solar hot water), with a minimum 0.50 solar fraction, or
3. Vegetative roof, covering a minimum 30 percent of the roof area not occupied by mechanical equipment or access stairways as a landscaped roof. This measure shall comply with the vegetative roof requirements in the California Building Code and shall be integrated into the project's Low-Impact Development Plan required under Section 15.56.095 of the WHMC.

\*Exemptions may be granted by the review authority, where the review authority determines that compliance with the requirements of this section is technically infeasible.

## SUSTAINABLE ROOF PROJECT EXAMPLES

Below are several examples of potential sustainable roof designs based on the requirements outlines in the Green Building Ordinance. These diagrammatic concepts are ways to meet the Sustainable Roof Requirements, but are not inclusive of all possible solutions.

### Sustainable Roof Use: Solar

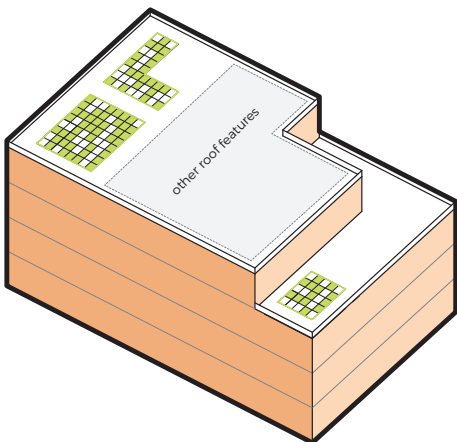


Solar sized to offset a minimum of fifteen (15) percent of the building's total estimated energy usage.

Note: Solar panels are allowed to be elevated from the roof to create a shade structure as part of a recreational use on the rooftop.



### Sustainable Roof Use: Vegetated Roof



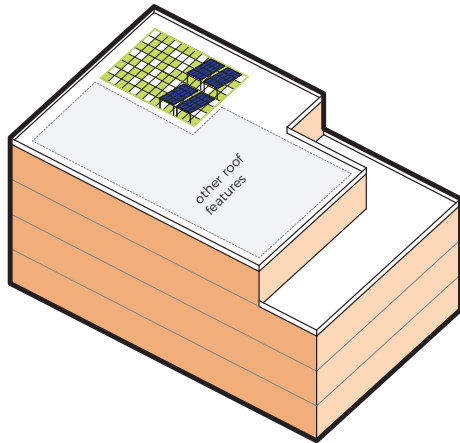
Vegetated roof covering 30% of the roof area not being used for mechanical equipment or access stairways.

Note: Vegetated roofs may also be located on terrace levels where there is no other floor above.



## SUSTAINABLE ROOF PROJECT EXAMPLES (CONTINUED)

### Sustainable Roof Use: Solar



\*Installing a combination of sustainable roof measures may be allowed at the discretion of the review authority.

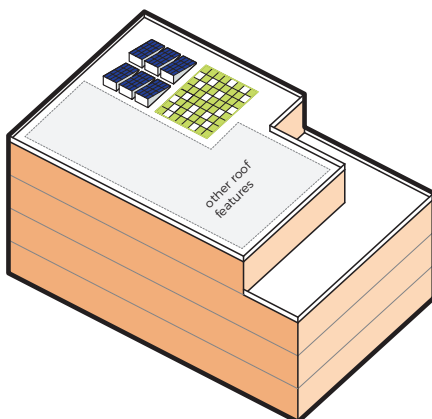
Solar and vegetated roof are co-located on the rooftop.

Note: California's Title 24 Energy Standards for buildings to be "solar ready", meaning 15% of roof area is unshaded for solar to be installed is still applicable. Vegetated roofs count as "solar ready" area.



---

### Sustainable Roof Use: Combination



\*Installing a combination of sustainable roof measures may be allowed at the discretion of the review authority.

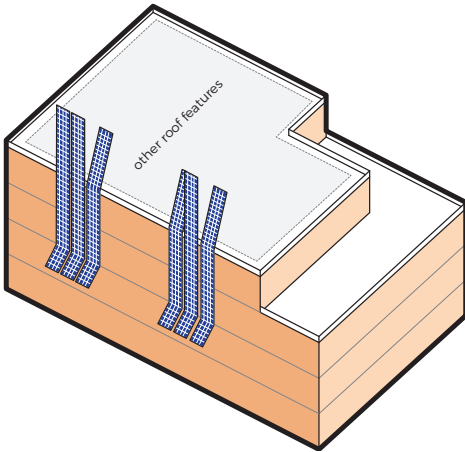
Combination of a non-integrated vegetated roof and solar array. Approximately 30% of the roof area.

Note: Solar panels are allowed to be elevated from the roof to create a shade structure as part of a recreational use on the rooftop.



## SUSTAINABLE ROOF PROJECT EXAMPLES (CONTINUED)

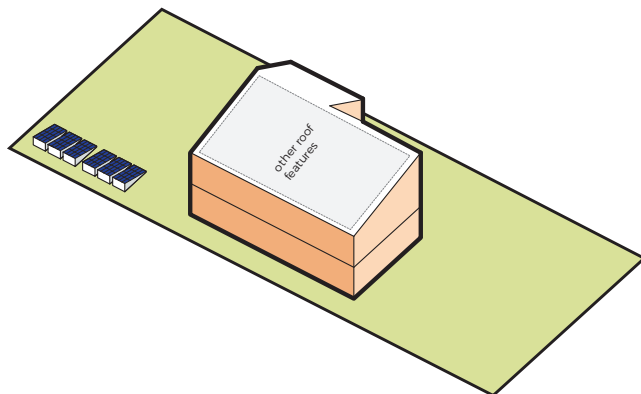
### Sustainable Roof Use: Building Integrated



At the discretion of the review authority, a project may be granted approval to installing non-roof photovoltaic or solar thermal systems that are integrated with the building. Such systems must meet the performance or prescriptive requirements equivalent to its corresponding Sustainable Roof Measure.



### Sustainable Roof Use: Alternative



At the discretion of the review authority, a project may be granted approval to installing non-roof photovoltaic or solar thermal systems on the ground. Such systems must meet the performance or prescriptive requirements equivalent to its corresponding Sustainable Roof Measure.



## OTHER REGULATIONS

California Energy Code (Title 24 Part 6) – The 2019 California Energy Code mandates that all single-family homes and low-rise residential (3 habitable stories or less above grade) meet the specifications of the State’s solar mandate as described in this code. All applicable project in West Hollywood must meet these requirements. All other projects 10,000 square feet or more must meet the local sustainable roof requirements as stated in this design guide.

Fire Department - Applicable projects should review Title 14: Fire Protection of the West Hollywood Municipal Code to ensure no conflicts exist between the local sustainable roof requirements and any fire code mandates for the project.

Onsite Stormwater Management – Applicable projects should review Section 15.56.095 of West Hollywood Municipal Code and the Green Building Program page on the City’s website (<http://www.weho.org/greenbuilding>) for more information on the City’s Low-Impact Development (LID) requirements, including required forms and documentation.

## DEFINITIONS

Solar Energy System: (see West Hollywood Municipal Code Section 19.90.020)

1. Any solar collector or other solar energy device, certified pursuant to State law, along with its ancillary equipment, whose primary purpose is to provide for the collection, storage, and distribution of solar energy for space heating, space cooling, electric generation, or water heating;
2. Any structural design feature of a building, whose primary purpose is to provide for the collection, storage, and distribution of solar energy for electricity generation, space heating or cooling, or for water heating.

Vegetative Roof: A conventional flat or sloping roof that is partially or completely covered with an integrated system that includes layers of living vegetation over a waterproof membrane or that are elevated from the roof surface through a comprehensive system. These roofs may require a root and protection barrier, a drainage layer, filter fabric, and irrigation. Individual potted plants, movable planters, or other non-permanent, noncontiguous features are not considered components of a comprehensive vegetative roof system (see West Hollywood Municipal Code Section 19.90.020).

## PROCESS

Show selected sustainable roof measures on roof plan as part of the planning review and building permit applications. Provide energy model calculations for PV offset or solar thermal system specifications to confirm compliance with measures. See Green Building Compliance Page at <http://www.weho.org/greenbuilding> for more information.

## QUESTIONS

For more information or questions, please contact Planning and Development Services at 323.848.6475.