

Town of _____

Sustainable Building Ordinance

1. Purpose

The purpose of these regulations is to set forth the requirements for the Town's Sustainable Building Ordinance. The Chief Building Official has the discretion to render interpretations of this ordinance and to adopt policies and procedures in order to clarify the application of its provisions.

These regulations were adopted by The Town of _____ on

The intent of the Town of _____ Sustainable Building Program (SB Program) is to encourage cost effective and sustainable building methods to conserve fossil fuels, water and other natural resources, to promote the reuse and recycling of building materials and a reduction in solid waste, and to promote enhanced indoor health and amenity in residential buildings.

The Town of _____ SB Program uses a combination of mandatory and secondary (discretionary) requirements combined with a points based system to ensure that all residential buildings achieve or exceed a minimum level of efficiency without limiting or restricting the size, design, and type of construction of the buildings or the amenity level provided.

The Town of _____ SB Program consists of three interconnected parts.

1. Mandatory Measures.
2. Secondary Measures, measures that must be met or off set by measures of equal value from the Summit County Sustainable Building Resource Guide.
3. The Summit County Sustainable Building Resource Guide (Appendix A). A guide that contains Sustainable recommendations, practices and point values.

2. Applicability

The provisions of this code shall apply to all new residential occupancy construction alterations and additions, including but not limited to, one and two family dwellings, and multi-family dwellings. Further, the provisions of this code shall apply to all residential dwelling units associated with a mixed-use development. For alterations and additions all new work shall comply with the provisions of this code and for the purposes of calculating building size the entire building, existing and proposed will be used.

Buildings that meet the mandatory measures as required in Section 4 and the secondary measures in Sections 5, and 6 as is applicable to the project type are deemed to comply with this code.

Buildings that meet the mandatory measures in Section 4 but do not meet the secondary measures in Sections 5 and 6 as is applicable to the project type must offset the level of non-compliance by undertaking alternative measures and achieving points of equal value as identified in the Resource Guide.

Exception; Buildings that meet and receive certification under LEED or other approved Nationally recognized Green Building Programs may be deemed to meet the Town of _____ SB Program.

3. Compliance

These regulations identify the specific requirements and measures for complying with the SB Program. The sections and numbers in these regulations correspond to the sections and numbers on the SB Checklist. A completed SB Checklist must be submitted with the appropriate building permit application.

Compliance with each measure described below or found in the Resource Guide will be demonstrated by one of two methods. If compliance is “Inspected,” Town staff will inspect these measures during typical inspections and shall require the submission of appropriate documentation to establish compliance. All materials and/or methods selected on the submitted Sustainable Building Checklist must be identified on the plans. If a measure is indicated as “Self-Certified,” the applicant’s signature on the SB Checklist serves as certification that a measure will be complied with as described in each section. The Town of _____ reserves the right to conduct follow-up inspections or compliance audits of self-certified measures prior to the issuance of a Certificate of Occupancy (CO). If for any reason an inspection or compliance audit fails, no C.O. will be issued until such time as those self-certified measures are corrected.

4. Mandatory Measures

The following measures are mandatory for all projects:

4.1 Insulation

- Exterior wall Insulation R-21
- Roof Ceiling Insulation R- 38
- Basement Wall Insulation R-10
- Conditioned Crawl Space Wall (below grade) R-10
- Conditioned Crawl Space Wall (above grade) R-19
- Under Slab Insulation R- 10
- Slab Edge Insulation R- 10
- Floor (over crawl) Insulation R-19
- Cantilever Floor R-30

Compliance: Inspected (Insulation)

4.2 Windows and Glazed Doors

Glazed windows,	maximum U- value of .35
Glazed Doors,	maximum U- value of .40
Skylights and other fenestrations,	maximum U- Value .50

Compliance: Inspected (Plan Check and Final) Inspector must be able to clearly identify the U-value and the window type.

4.3 Exterior opaque Doors

Door maximum U-Value: of .50

Compliance: Inspected (Final)

4.4 Energy efficient boiler or furnace

When a boiler is installed, it must meet a minimum 87% efficiency rating. For a forced air system, a 88% efficient system must be installed.

Compliance: Inspected (Final)

4.5 Water Heater

Any conventional (storage) water heater installed must meet a minimum .63 energy factor (EF) rating for gas and a minimum .93 energy factor (EF) rating for electric. If a tankless, indirect, solar, or heat pump water heater is installed, this mandatory requirement shall be deemed to be met.

Compliance: Inspected (Final)

4.6 Owners Manual

An owner's manual, which includes the operation instructions of all mechanical systems and energy saving systems installed in the house, shall be provided to the homeowner.

Compliance: Inspected (Final)

5. Secondary Measures

Secondary measures for sustainable building must be provided for according to the specific units types and unit sizes outlined within this Section 5. In order to provide the designer and builder with some flexibility, each secondary measure listed is also accompanied by an "off-set value." This offset value refers to the alternative methods and materials found in the Resource Guide, which may be used instead of the listed secondary measure.

5.1.1 Building Size; Single Family (Attached and Detached)

For every 50 square feet of conditioned space (including heated garage) over 3,000 square feet, a unit shall be required to earn one point which must be off-set by applicable measures listed in the Resource Guide.

5.1.2 Unit Size; Multi Family (3 or more units) or Residential units in mixed use developments.

For every 50 square feet of living space over 1200 square feet, a unit shall be required to earn one point, which must be off set by applicable measures listed in the Resource Guide.

5.1.3 Building Size Additions

For the purpose of calculating total building size the existing plus the proposed building size will be used.

A single-family building that has a total building size of more than 3000 square feet shall be required to earn one point for every 50 square feet of new conditioned space, which must be offset according to applicable measures listed in the Resource Guide.

A multi family unit that has a total unit size of more than 1200 square feet shall be required to earn one point for every 50 square feet of new living space which must be off set by applicable measures listed in the Resource Guide.

5.2 Renewable or Engineered Lumber

Install the following quantities of renewable lumber in each unit:

framing

Minimum of 60% of renewable or engineered lumber in roof

framing
Minimum of 80% of renewable or engineered lumber in floor

Minimum of 80% of renewable or engineered lumber in beams and headers

Off set value, 1 point for every 10% less than required above.

Compliance: Inspected (Framing)

5.3 Day Lighting

All bathrooms/powder rooms/laundry rooms and garages have windows and/or skylights and or transoms to outside meeting natural light requirements of Building Code.

Offset value, 2 points for every bathroom/ powder room/ laundry room without exterior windows.

Compliance: Inspected (Final)

5.4 Air Stratification

All vaulted / raised ceiling areas greater than fifteen feet above the finished floor level are to include an air destratification fan or vent system.

Off set value, 5 points

Compliance: Inspected (Final)

5.5 Window Insulation

All high windows in vaulted ceiling areas or high ceiling rooms greater than fifteen feet above finished floor level shall install insulated blinds/curtains that are readily controlled from the floor below.

Off set value, 1 points for each 10 sq/ft of window area above ten feet without insulated blinds/curtains.

Compliance: Self-certified

5.6 Recycling

Install a recycling center in all kitchen areas. Provide a dedicated space in all garages for the storage of recycling bins.

Off set value, 3 points

Compliance: Inspected (Final)

5.7 Energy Star® rated appliances

Install an energy efficient dishwasher, refrigerator and/or freezer, and clothes washer. Energy efficient appliance designation is indicated on the required Department of Energy “Energy Star®” label.

Off set value, 1 point for each appliance not rated or not provided.

Compliance: Inspected (Final)

6. Intensive Energy Use Amenities

Any new residential occupancy construction, alterations and additions, and new construction, including but not limited to, one and two family dwellings, and multi-family dwellings that propose any of the following amenities must offset the energy usage in the following amounts:

6.1 Out door gas fire pits/fire places and stoves, (excluding grills)

Off set value, 5 points for appliance.
Compliance: Inspected (Final)

6.2 Hot tubs, spa pools and swimming pools.

Off set value, 5 points for every 50 square feet of hot tub, spa, or pool water surface area.
Compliance: Inspected (Final)

6.3 Outdoor heated surfaces including exterior drives, pathways patios, and garage aprons, etc.

Off set value, 2 points for every 100 sq/ft of out door heated surface
Compliance: Inspected (Final)

6.4 Air Conditioning

Off set value 2 points for every 1000sq/ft of air conditioned space
Compliance: Inspected(Final)

7.0 Example Single Family Residence

Sect 5.1.1, a 3,400 square foot house with a unheated garage would be required to provide measures to off set a total of 8 points $(3,400-3000)=400$ divided by 50 = **8 points**

Sect5.2, if the house is predominantly a truss roof with I joist flooring and LVL headers then no off set points would be required.

Sects 5.3, assume there are three bathrooms a separate laundry and a garage. The garage and two bathrooms have windows. Measures to off set a total of **4 points**, (2 for the bathroom and 2 for the laundry) would be required.

Sect 5.4, the house has a vaulted ceiling and a reversible direction fan is provided that will move the built up heat in the vault. No off set points required.

Sect5.5, the builder has chosen not to provide insulated blinds to the windows in the vault. The windows fifteen feet above the floor area have 25 square feet of glazed area. Measures to off set a total of **3 points** would be required. (1 point for each 10 sq/ft or part thereof.)

Sect 5.6, a recycling center is provided in the kitchen and a dedicated space has been provided for recycling in the garage. No off set points required.

*Sect5.7, the builder will not be providing a washer and dryer but will provide energy star rated range, dishwasher, and fridge. Measures to offset a total of **1 point** would be required. (1 point for a washer not provided)*

*Section 6, a 7'x7' out door hot tub is proposed but no heated exterior surfaces or outdoor gas appliances. Measures to offset a total of **5 points** would be required*

*The total off set points required for the above example would be **22 points***

The building will include in the project additional green measures from the resource guide that individually or collectively equal 22 off set points.