

*Note: Proposed changes to the Code in this section include additions in **BOLD**. The definitions in bold below are not currently found Code and are being added. The amendments in this exhibit also include a scope at the beginning to provide more clarity in the applicability of this section of the code, and an increase in the education requirements for building permit applicants subject to SBR.*

Exhibit A

Sec. 18-23. - Sustainable Building Regulations.

(a) **Scope. This regulation applies to buildings:**

1 - Residential:

- **New construction,**
- **Alteration per IEBC Level 2,**
- **Alteration per IEBC Level 3, Change in occupancy, Alterations that impact > 750 SF,**
- **Additions, > 500 SF,**
- **Exterior energy uses.**

2 - Commercial:

- **New construction, Core and Shell,**
- **Tenant finish**
- **Alteration per IEBC Level 2,**
- **Alteration per IEBC Level 3, Change in occupancy, Alterations that impact > 2,000 SF**
- **Additions and detached garages, > 500 SF,**
- **Multi Family,**
- **Historic Landmark Building Alteration per IEBC Level 2, Level 3, > 2,000 SF, Exterior energy uses.**

Purpose. The intent of the Sustainable Building Regulations (SBR) program is to encourage cost-effective sustainable building methods to create durable, energy efficient structures that conserve natural resources, promote the efficient use of building materials, and improve indoor air quality in the Town.

The Town Building Official may prepare and maintain an SBR commentary as defined herein to help administer the Sustainable Building Regulations.

(b) **Definitions:**

Air barrier materials means materials which are assembled and joined together for the purpose of providing a barrier to air leakage through the building thermal envelope. An air barrier may be a single material or a combination of materials **such as a system of sealants, seals, insulation, and wall sheathing that prevent air infiltration.**

All-electric building means a building that has no natural gas or propane plumbing installed within the building, and that uses electricity as the sole source of energy for its space heating and cooling, water heating (including pools and spas), cooking

appliances, and clothes drying appliances. All-electric buildings may include solar thermal water and pool heating.

ALTERATION—LEVEL 1. Level 1 alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose.

ALTERATION—LEVEL 2. Level 2 alterations include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment.

ALTERATION—LEVEL 3. Level 3 alterations apply where the work area exceeds 50 percent of the *building area*, change of occupancy under the IEBC, or if alteration impacts 750 square feet (2,000 square feet for commercial), or more of conditioned floor area.

Annual energy use means the average daily building energy consumption multiplied by 365 (days per year), expressed in kilowatt hours per year (“kWh/a”). This is as calculated by ASHRAE 90.1, Appendix G (such as, but not limited to DOE-2, BLAST, or EnergyPlus), or similar approved methodology. Process loads are not included in this calculation.

Battery-ready means a building that is capable of utilizing batteries to store any excess renewable energy that is generated during the day. Being battery ready includes having sufficient physical space to install a future energy storage system, along with necessary electric infrastructure to accommodate the storage system and ensuring that it is protected by potential damage by vehicles, etc.

Battery System, Stationary Storage means a rechargeable energy storage system consisting of electrochemical storage batteries, battery chargers, controls, and associated electrical equipment designed to provide electrical power to a building. The system is typically used to provide standby or emergency power for uninterruptible power supply, load shedding, load sharing, or similar capabilities.

Beneficial electrification is a term for replacing direct fossil fuel use (e.g., propane, heating oil, natural gas, gasoline) with electricity in a way that reduces overall emissions and energy costs.

Biomass fuel means any plant-derived fuel available on a renewable or recurring basis, including agricultural crops and trees, wood and wood waste and residues (including wood pellets), plants (including aquatic plants), grasses, residues, and fibers.

Building component is one (1) of the following: framing, wall, siding, flooring, trim, and other primary elements of a building as determined by the Town Building Official.

Building thermal envelope means the basement walls, exterior walls, floor, roof, and any other building elements that enclose conditioned **volume** or provide a boundary between conditioned space and exempt or unconditioned space.

Cavity insulation is insulating material located between framing members.

Construction element is one (1) of the following: framing material, siding, flooring, trim, and other primary elements of a building as determined by the Town Building Official.

Continuous air barrier means a combination of materials and assemblies that restrict or prevent the passage of air through the building thermal envelope.

Conditioned floor area is the horizontal projection of the floors associated with the **conditioned space**.

This definition specifically excludes:

- The floor area of a conditioned crawlspace.
- Garages heated with a stand-alone heater that is operated on a timer.
- The floor area of a thermally isolated sunroom.

Conditioned space is an area, room or space that is enclosed within the building thermal envelope and is directly or indirectly heated or cooled. Spaces are indirectly heated or cooled where they communicate through openings with conditioned spaces, where they are separated from conditioned spaces by uninsulated walls, floors or ceilings, or where they contain uninsulated ducts, piping or other sources of heating or cooling.

Continuous insulation (CI) means insulating material that is continuous across all structural members without thermal bridges other than fasteners and service openings. It is installed on the interior or exterior of is integral to any opaque surface of the building envelope.

Dwelling unit Enclosure Area is the sum of all the boundary surfaces that define the dwelling unit, including top, bottom, and all sides. This does not include interior partition walls within the dwelling unit. Wall height should be measured from the finished floor of the dwelling unit to the underside of the floor above (rather than stopping at the finished ceiling).

Engineered lumber means a composite wood product made from pieces of recycled/reconstituted/scrap wood and fibers bonded together with adhesive to create a durable and resource friendly substitute for raw-sawn lumber.

Electric-Ready means buildings designed and constructed to support the easy transition over to electric systems at any time during the life of the building, which is achieved by adequate panel capacity, dedicated electric panel space, electrical wire, electrical receptacles, and adequate physical space to accommodate future installation of high-efficiency electric appliances including heating, water heating, cooking, drying, and an electric vehicle.

Electrification-ready circuits means circuits with both ends of the unused conductors labeled with the word "SPARE" and are electrically isolated. A single pole circuit breaker space must be reserved in the electrical panel adjacent to each circuit breaker for the branch circuit and labeled with the words "FUTURE 120/240V USE."

Electrical service reserved space is reserved space on the main electrical service panel to allow installation of a two-pole circuit breaker for future electrical energy storage system installation This space shall be labeled "For Future Electric Storage". The reserved spaces shall be positioned at the end of the panel that is opposite from the panel supply conductor connection. Any electrical energy storage system that is installed shall meet all requirements of the IFC, Section 1207.

Electric Vehicle Capable Space means a dedicated parking space with conduit, electrical panel capacity and space for a branch circuit dedicated to the EV parking space that is not less than 40-ampere and 208/240-volt and equipped with raceways, both underground and surface mounted, to enable the future installation of electric vehicle supply equipment. For two adjacent EV-Capable spaces, a single branch circuit is permitted.

Electric Vehicle Ready Space means a designated parking space that has a full circuit installation of 208/240-volt (or greater), 40-ampere (or greater) panel capacity, raceway wiring, receptacle and circuit overprotection devices to allow for the future installation of EV Supply Equipment (EVSE). The receptacle or junction box shall be located in close proximity to the proposed location of the EV parking space. For two adjacent EV-Ready spaces, a single branch circuit is permitted.

Electric Vehicle Supply Equipment (EVSE) Installed Space means a designated parking space with apparatus installed specifically for the purpose of transferring energy between the premises wiring and the Electric Vehicle.

Energy Assessment means an assessment of a residence that reviews the current energy consumption and identifies energy efficiency measures to improve efficient energy use in the residence. The assessment shall be performed by a Town-approved third party.

Greywater means water from bathroom and laundry room sinks, bathtubs, showers, and laundry machines. Greywater does not include the wastewater from toilets, urinals, kitchen sinks, dishwashers, or non-laundry utility sinks.

HERS (Home Energy Rating System) is a method that is used to determine the overall energy use of a home. The HERS Rating was developed by the Residential Energy Services Network (RESNET), which is a nationally recognized standard for measuring the energy efficiency of a home.

Net Zero Energy Building is a building that annually produces as much energy as it consumes for the heating, cooling, water heating, and basic electrical loads including lighting, plug loads and fans. A Zero Energy Building does not have any natural gas infrastructure connected to the building.

Occupancy is the occupancy as designated by the building code in effect at the time of permit submittal.

Occupied area means an area where one (1) or more individuals normally spend time (more than three (3) hours per person per day on average) seated or standing as they work, study, or perform other focused activities inside a building.

Performance is one (1) of the allowed paths under the International Energy Code for satisfying the requirements of that code. The definition used in this Article is the same as included in **the most recent** version of the International Energy Code adopted by the Town of Basalt.

Pool (public) means a pool, other than a residential pool, that is intended to be used for swimming or bathing and is operated by an owner, lessee, operator, licensee or concessionaire, regardless of whether a fee is charged for use.

Pool (residential) means a pool intended for use that is accessory to a residential setting and available only to the household and its guests.

Prescriptive is one (1) of the allowed paths under the International Energy Code for satisfying the requirements of that code. The definition used in this Article is the same as included in **the most recent** version of the International Energy Code by the Town of Basalt.

Recycled content is the sum of post-consumer recycled content plus one-half (½) the pre consumer recycled content, based on cost.

Renewable energy source is incoming solar radiation and photosynthetic processes; natural phenomena including wind, hydropower, and lake or pond thermal differences; from

decomposition of waste material; and processes that use regenerative materials, including wood and bio-based products; and from the internal heat of the earth.

Residential, residence, home, or house means detached one- and two-family dwellings and townhouses not more than three (3) stories in height.

Solar-ready building design means designing and constructing a building in a way that facilitates and optimizes the installation of a rooftop solar photovoltaic (PV) system at some point after the building has been constructed. The commercial building shall be designed to have 40% of the roof area dedicated as a solar-ready zone, as well as a junction box and dedicated pathway for wiring from electrical panel to roof for future solar installation.

Solar-ready zone is a section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or solar thermal system. This roof area is calculated as the horizontally projected gross roof area less the area covered by skylights, occupied roof decks, vegetative roof areas and mandatory access or set back areas as required by the International Fire Code and local Fire Authority. This zone is free from obstructions, including pipes, vents, ducts, HVAC equipment, skylights and roof-mounted equipment and shall not be shaded. For commercial buildings, a collateral dead load of not less than 5 pounds per square foot (5 psf) (24.41kg/m²) shall be included in the gravity and lateral design calculations for the solar-ready zone, or as designed by the structural engineer.

SBR commentary means a document prepared by the Town Building Official to highlight and summarize knowledge and facts relating to the implementation of the Town's Sustainable Building Regulations. It includes the SBR checklists which must be completed by applicants and submitted to the Town Building Official as part of the building permit application for projects subject to the SBR regulations in order to demonstrate compliance with the SBR regulations. It may also include summaries of the IECC as the Town's Sustainable Building Regulations **are** built on the existing requirements and a knowledge of the IECC requirements is essential to successful implementation of the Town's Sustainable Building Regulations. The Commentary may also include the list of eligible training opportunities.

Spa means a product intended for the immersion of persons in temperature-controlled water circulated in a closed system, and not intended to be drained and filled with each use. A spa usually includes a filter, electric, solar or gas heater, a pump or pumps, and a control, and can include other equipment, such as lights, blowers, and water-sanitizing equipment.

Zero energy ready home program means the program developed by the Department of Energy (DOE) which includes a robust set of guidelines to create high performance homes that conserve natural resources and have a limited impact on the environment, are healthy for occupants, comfortable and durable.

- (c) SBR regulations address requirements for the following subjects which are used in both the Type I and the Type II Sustainability Building Regulations:

Part 1: Site/water conservation

Part 2: Recycling and reuse

Part 3: Framing and materials

Part 4: Energy

Part 5: Renewable energy **and beneficial electrification**

Part 6: Indoor air quality

Part 7: Innovation

- (d) Education requirements: All applicants for a building permit subject to Type I or Type II Sustainable Building Regulations within the Town of Basalt, including contractors and owner/builders, must provide documentation from the SBR program of completing five (5) hours of eligible SBR training within the eighteen-month period preceding the building permit **submittal** subject to those SBR requirements. This requirement will apply to all building permits submitted after January 1, 2019. The Town Building Official will maintain a list of eligible training opportunities. Applicants are allowed to submit proof of attendance at training events not on the list for review and approval by the Town Building Official and potential addition to the list of eligible training opportunities.
- (e) Powers and duties of the SBR Review Committee: The SBR Review Committee shall be comprised of the Town Manager, Town Planner, Town Building Official, or their respective designee, and a representative of CORE. The SBR Review Committee has the authority to review and decide requests for interpretations and appeals of the SBR regulations. For more complex or significant reviews, the SBR Review Committee may refer the request to the Town Council for action, or an applicant may appeal a decision of the SBR Review Committee to the Town Council utilizing the procedures established in Section 16-11 of the Zoning Code. Interpretations and exemptions shall be reviewed in accordance with the following standards and procedures.
- (1) Compliance with the purpose and intent of the SBR regulations.
 - (2) Any special conditions, circumstances, or hardships that warrant the exemption and/or appropriate conditions of approval.
 - (3) An Applicant may submit a request for an exemption from the Code requirements to the Building Official by defining a specific hardship, undue burden, or the inability of the requirement to be successfully performed or implemented on the site. The Building Official shall consider the validity of the request and provide a referral to the Sustainable Building Codes (SBR) Committee for review and decision.
 - (4) Appeals of the SBR Review Committee determinations may be considered per Section 16-11 of the Municipal Code.

The SBR Review Committee may place reasonable conditions on an interpretation or exemption request. The applicant for a SBR review shall pay an application fee and shall reimburse the Town for costs as provided in the Town's Fee Schedule.

- (f) **Exterior Energy Uses. The following Residential and Commercial exterior energy uses set forth below may be installed only if the supplemental energy meets the requirements of this Section, the applicant complies with Section 18-14 (Fees), and such energy uses are mitigated as set forth in the "Town of Basalt REMP Calculation Sheet": (1) snowmelt systems (e.g. driveways, patios, walkways, etc.); (2) exterior pools; (3) exterior spas; (4) electric heat tape and heat controls (for melting snow and ice on roofs, gutters, downspouts, exterior piping, and other residential elements); (5) Exterior heaters and fireplaces (e.g. gas fire pit, etc.); and (6) heated garages. These requirements apply to all installations for which an application for a building, mechanical, electrical or plumbing permit or renewal of an existing permit is filed or is by law required to be filed with or without an associated Building Permit.**

Onsite Renewable Credits. Credits for renewable energy production will be calculated and applied per “Town of Basalt REMP Calculation Sheet” for energy generated onsite.

Renewable energy methods listed in the calculator include: solar electric panels (solar photovoltaic, PV), solar thermal arrays, ground source heat pumps (GSHPs), hydroelectric and wind power. Provision for alternative method calculations, including off-site renewable energy methods, is also provided, but will be at a premium and shall be approved by the Town Building Official.

(1) Snowmelt systems:

a. The maximum area of snowmelt is capped at 6,000 square feet per lot unless a greater area is approved by the Town Council by motion.

b. R-15 insulation must be installed under all areas to be snowmelted.

c. Required snowmelt controls. All systems must have automated controls that shut off the system when the pavement is above 50F and precipitation is not falling, and an automatic or manual control that is configured to shut off when the outdoor temperature is above 40F.

d. Snowmelt heating appliances will have a minimum efficiency of 92% AFUE. Electric resistance and heat pump heaters will be allowed. Where condensing boilers are used, the boiler supply water temperature shall be a maximum of 130F to allow for efficient boiler operation.

(2) Exterior pools:

a. Pool covers are required for all pools, with a minimum R-value of 2.

b. Pools shall have a readily accessible on-off switch mounted on the outside of the heater, that allows shutting off the heater without adjusting the thermostat setting.

c. Pools must have directional inlets that adequately mix the pool water.

d. Pools must have at least thirty-six (36) inches of pipe between the filter and heater to allow for the future addition of solar heating equipment.

e. Summer use only pools shall have a maximum boiler capacity of four hundred five thousand (405,000) BTU per hour. If the boiler exceeds this capacity, it will be classified as a heated winter pool for the purposes of calculating and paying applicable REMP fees.

g. Pool heating appliances will have a minimum efficiency of 92% AFUE. Electric resistance and heat pump heaters are allowed. Where condensing boilers are used, the boiler supply water temperature must be set to be a maximum of 130F to allow for efficient boiler operation.

(3) Exterior spas:

a. Spa covers are required for all spas, with a minimum R-value of 12. For pools and spas over 64 sf, the cover shall be a minimum R6. The square footage shall be measured from the outside to outside of whole spa unit.

b. Spa heating appliances will have a minimum efficiency of 92% AFUE. Electric resistance and heat pump heaters are allowed. Where condensing boilers are used, the boiler supply water temperature must be set at a maximum of 130F to allow for efficient boiler operation.

c. Spas shall have a readily accessible on-off switch mounted on the outside of the heater, that allows shutting off the heater without adjusting the thermostat setting.

d. Spas must have at least thirty-six (36) inches of pipe between the filter and heater to allow for the future addition of solar heating equipment.

e. The following are exempt from these REMP fees or offsets. regulations: Package spas less than 64 sf and one spa per lot.

(4) Electric heat tape and heat tape controls

a. The first 1000 watts of heat tape are “free-allowed” and exempt from payment or offset.

b. All systems are required to have automated controls that shut off the system when the pavement is above 50F and precipitation is not falling, and an automatic or manual control that is configured to shut off when the outdoor temperature is above 40F.

c. Hydronic roof and gutter deicing systems. These systems shall be considered snowmelt systems and shall comply with (f)(1) above.

(5) Exterior heaters and fireplaces

a. This section applies to the following, regardless of size: gas fire pits, patio heaters, either gas or electric indoor/outdoor fireplaces, and outdoor gas fireplaces.

b. Exterior heaters shall be of radiant type for all Type II construction. Exterior gas fireplaces are not permitted for Type II construction.

c. All exterior heating devices outside of a building shall be controlled by an occupancy sensing device or a timer switch, so that the system is automatically de-energized when occupants/users are not present.

(6) Heated garages

a. Garages heated by a qualified unit heater (must be a free-standing unit, operated on a timer and that is not tied to the dwelling unit (Type I) or Type II building are "free allowed" and not subject to REMP fees. A thermostat does not qualify.

b. All heated garages must be insulated to IECC minimum assembly requirements. Garage doors must be insulated with R-12 and weather stripped. If these conditions are not met, a fee shall be issued in accordance with this Section, regardless of whether a stand-alone heater operated on a timer is installed.

c. Any boiler or furnace system used for heating a garage that is not separate from the dwelling unit (Type I) or Type II building must be controlled by a separate

thermostat and zone. REMP fees or offset with on-site renewables shall apply for these applications.

Note: Proposed changes to the Code in this section include additions in BOLD. Numbering has been updated in some areas to reflect additions, deletions and reordering of items. Additions made to Type I Tables 1 and 2 include underlined text for clarity.

Exhibit B

Sec. 18-24. - Type I Sustainable Building Regulations (SBR).

(a) Applicability. Type I apply to:

- (1) All new single-family, duplex, and townhouse (attached single-family) residential construction
- (2) Additions of conditioned space of more than five hundred (500) square feet to single-family, duplex, and townhouse (attached single-family) residential units.
- (3) Conditioned floor area being remodeled in single-family, duplex, and townhouse (attached single-family) residential units at **Level 2 and Level 3 Category** ~~or greater~~ per the International Existing Building Code (IEBC) or remodels of conditioned space that impact more than **seven hundred fifty (750)** square feet or include a change in occupancy.

Applicants for construction subject to the Type I Sustainable Building Regulations must demonstrate ability to comply with the appropriate threshold level established by Subsection (c) below prior to building permit based on conditioned floor area and must demonstrate ability to comply before any new construction, remodel, or addition begins; this compliance must be verified prior to a certificate of occupancy or certificate of completion is granted by the Town Building Official.

(b) Exceptions:

- (1) New manufactured housing approved by Colorado Department of Housing, **and which is ENERGY STAR certified.**
- (2) One-story attached or detached accessory structures, provided that the floor area does not exceed five hundred (500) square feet.
- (3) Remodels that fall under the Level 1 ~~and Level 2~~ Category per the International Existing Building Code.
- (4) Additions less than or equal to five hundred (500) square feet.
- (5) Snowmelt, spas, and pools **that do not exceed the “free-allowed” square footage set forth in Subsection 18-24(e).**

(c) Compliance Paths: Building permit applicants must inform the Town Building Official at the time of building permit application which of the following **energy code compliance** paths will be used to satisfying the **Type I** point thresholds:

- (1) Prescriptive (**option available only when project contains less than two thousand square feet of conditioned floor area**) via REScheck. **The proposed design must exceed compliance by a minimum of 5% comply with the requirements of Sections R401 through R404. All items listed in the Requirements Checklist in the REScheck must also be addressed.**

- (2) **A HERS score of 40 must be achieved for a residence utilizing both gas and electric. For an all-electric residence, a HERS score of 45 is required. A HERS 60 must be achieved prior to any on-site renewables being added. A Projected HERS Report showing the score at 60 or below without PV and at or below 45/50 with PV shall be issued at permit submittal, this includes the HERS Certificate, the Building Spec Report and the Building Summary Report. The same documents shall be submitted with the as-built conditions prior to issuance of a Certificate of Occupancy. If a project does not meet the maximum HERS score (dependent on house residence size), at the building final, a fee of \$0.25 multiplied by the conditioned floor area, multiplied by the number of points short shall apply and be paid prior to final.**
- (3) Department of **Energy** Zero Energy Ready Program, **most recent version**, which has the following subpaths: ZER Prescriptive or **Performance**. The Town's fee schedule provides for rebates in the building permit fee for this compliance path.
- (4) *Living Building Certification or Petal Certification (If pursuing Petal Certification, one (1) of the three (3) required petals must be Energy). The Town's fee schedule provides for rebates in building permit fee for this compliance path. Rebate available only after certification is achieved.
- (5) **Passive House Certification via PHIUS (Passive House Institute of the US or PHI, Passive House Institute): PHIUS Performance or Prescriptive Certification. The Town's fee schedule provides for rebates in the building permit fee for this compliance path. Rebate available only after certification is achieved.
- (6) **LEED Gold: Must achieve LEED for Homes Gold Certification or greater. The Town's fee schedule provides for rebates in the building permit fee for this compliance path. Rebate available only after certification is achieved.

*Indicates an “above-code” compliance option, which is exempt from the SBR program; however, IECC requirements still apply.

**Indicates an “above-code” compliance option, which are exempt from the SBR program, Parts 1.0 - 4.0 and Parts 6.0 - 7.0 only. Part 5.0 Renewable Energy and Beneficial Electrification shall still apply. IECC requirements still apply.

(d) Conditioned floor area subject to Type I Sustainable Building Regulations must satisfy all IECC Mandatory Requirements, plus any additional requirements listed in the current code and this Ordinance, for the path chosen by the applicant.

Amendments to the IECC are as follows:

- **Section R301.1 General: (add) The Town of Basalt shall utilize the Climate Zone of 6B.**
- **Section R302.1 Interior design conditions: (replace) “72F for heating” with “70F for heating”.**
- **Section 402.2.4 Access hatches and doors – (delete) shall be insulated to the same R-value required by Table R402.1.3 for the wall or ceiling in which they are installed. (replace with) shall have a minimum R20 value.**
- **Section R402.4 Air Leakage and Testing (Blower Door Test; R402.4.1.2) – (replace with) The maximum air leakage rate for any detached residential building under any compliance path shall not exceed 3.0 air changes per hour (at 50 Pascals). For**

attached single-family / multi-family buildings, the leakage rate shall not exceed 0.30 cfm/SF (at 50 Pascals) of the dwelling unit enclosure area. Any remodels subject to SBRs shall also have a baseline blower door test and shall improve the baseline by 15% ACH50 if volume remains the same. If volume is added, an improvement of 15% CFM50 cfm/SF (at 50 Pascals), which is based on the envelope, shall be used. Note that if the building does not have mechanical ventilation, mechanical ventilation shall be installed if the final blower door is equal to or less than five (5) ACH50. If the blower door test is not passed by final inspection, a fine of \$0.10 \$1.00 (times the conditioned floor area multiplied times the ACH50 short, rounded to the tenth decimal place) shall be calculated by the Town and paid by the Applicant prior to final inspection. For a multi-family building, the fine shall be \$800 per 0.01 cfm over the 0.30 cfm/SF threshold (at 50 Pascals).

- **Section R403.3.3, R403.3.5 Duct Testing and Duct Leakage (R403.3.4 R403.3.6) – (replace with) Ducts shall be pressure tested to determine air leakage during construction, either at rough-in or at final. A fee of \$0.10 \$0.40 times the conditioned floor area multiplied by the CFM/100 SF short, rounded to the tenth decimal place, shall be calculated by the Town and paid by the Applicant prior to final inspection.**
 - **#1 Rough-in Test - < or = 4 cfm per 100 SF of conditioned floor area. If the air handler is not installed, leakage shall be < or = 3 cfm per 100 SF.**
 - **#2 Postconstruction Test - < or = 4 cfm per 100 SF of conditioned floor area.**
- **Section R403.6 Mechanical Ventilation – (replace with) The building shall be provided with ventilation that meets the fresh air requirements of the IRC or IMC, as applicable, or with other approved means of ventilation. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating. The mechanical ventilation shall meet the minimum CFM airflow rates (and not exceed by more than 20%) and efficacy listed in Table R403.6.2. Per the Town of Basalt, the method of ventilation must be balanced and one (1) of the following:**
 - **Balanced Supply and Exhaust - must pair a central-fan integrated supply system with the exhaust fans or pair a supply fan with the exhaust fans.**
 - **Balanced HRV (Heat Recovery Ventilator) - condensate line must be on the interior.**
 - **Balanced ERV (Energy Recovery Ventilator) - system must have a defrost cycle.**
- **Section R403.7 Equipment sizing and efficiency rating – (add) Where a full replacement of a unit occurs, a Manual J and S shall be performed on the existing building. Heating units shall not be oversized more than 140% of calculated heating load; cooling units shall not be oversized more than 115% of calculation cooling load. If oversizing over these allowances is required for CFM flows, this situation can be treated on a case-to-case basis and shall be approved by the Building Official. Any new boilers or furnaces installed in the Town of Basalt shall have a minimum of 92% AFUE (Annual Fuel Utilization Efficiency) and furnaces shall be either two-stage or modulating. All HVAC equipment will meet a minimum SEER (Seasonal Energy Efficiency Ratio) rating of 14.**

- Section 501.1.1 (add) - Any remodels subject to SBRs shall get an energy assessment done by a certified third party. The Community Office for Resource Efficiency (CORE) offers these assessments at a discount.
- Section 501.1.1 (add) For alterations that fall under Level 2 or 3 of the IEBC or for additions greater than 500 square feet, an air infiltration (blower door) test is required prior to commencement of the alteration or addition and a final air infiltration test prior to final building inspection must demonstrate a fifteen (15) percent leakage reduction. The units for testing shall be ACH50 if the volume remains the same on a project. If volume is added, an improvement of 15% cfm/SF, based on the dwelling unit enclosure area. Mechanical ventilation is required if the house has 5.0 ACH50 or less. This can be achieved via the following methods. Note these methods are only acceptable for remodels.
 - Exhaust-only - Exhaust-only systems use kitchen, bath, and/or laundry fans to exhaust stale air locally and from the whole house. The fans are set to run continuously or intermittently on timer controls.
 - Supply - Central fan-integrated supply ventilation provides outdoor air through an outdoor air intake that is ducted to the return side of the home’s central heating and cooling system air handler for filtering, heating or cooling, and distribution to the house through the HVAC system ducts.
 - Balanced - Heat recovery ventilators (HRVs) simultaneously bring in outdoor air and exhaust indoor air, with both ducts passing through a heat exchanger for heat recovery. Energy recovery ventilators (ERVs), function like HRVs but move and transfer both heat and moisture. ERVs and HRVs may be connected to the home’s central air handler and duct system or independently ducted. Any condensate line must be inside the building thermal envelope.
 - Section R503.1.1 Building Envelope, Exception 2: (delete) “provided that these cavities are filled with insulation.” (add) these cavities shall be required to meet prescriptive code minimums whenever feasible and be air sealed.

The conditioned **floor area** must satisfy the point thresholds as shown below in Table 1 for each type of development subject to Type I regulations. Only the additions of conditioned space volume or floor area being remodeled is subject to the Type I Sustainable Building Regulations requirements. In addition, for new residential projects of one-thousand **five-hundred (1,500)** or more square feet of conditioned **floor area**, developments must also satisfy minimum point thresholds for each of the seven (7) parts summarized in Section 18-23(c) as shown on Table 2.

Development Activity	
REScheck, HERS, Zero Energy Ready	
n/a	R1 Level 1 : Remodels - Level 1 under the IEBC

15	Level 2: Remodels - Level 2 under the IEBC
20	Level 3: Remodels - Level 3 under the IEBC, change of occupancy or > 750 square feet
20	A: Additions > 500 square feet
20	NC: 0-500 square feet *
72	NC: 501- 1500 square feet *
78	NC: 1501 - 2000 square feet *
83	NC: 2001 - 3000 square feet *
88	NC: 3001-4000 square feet *
93	NC: 4001-5000 square feet *
	* Threshold levels increase 10 points for forced air conditioning

Note:

[1] The abbreviations used in the right column are used in the SBR commentary prepared by the Town Building Official as referenced in Section 18-23 of these regulations. "R" stands for remodels. "A" stands for additions **and detached garages of conditioned floor area greater than five hundred (500) square feet**. "NC" stands for new construction. **Level 3 remodels are classified Level 3 under the IEBC, change of occupancy under the IEBC, or remodels that will disturb more than seven hundred fifty (750) square feet of conditioned floor area.**

<p>Sustainable Building Regulations – Minimum Required Point Threshold per Subcategory*</p>
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SBR-Type 1- Table 2

***Minimum Point Thresholds are not applicable to houses equal to or less than 1,500 SF. The numbers below are reflective of residences homes 1,501—2,000 SF. Total minimum required points increase as the SF increases. These numbers are in the Checklist.**

	(1) Site/Water Conser- vation	(2) Recycling and Reuse	(3) Framing and Materials	(4) Energy	(5) Additional I Energy Measures	(6) Indoor Air Quality	(7) Innovation	Min. Required Points
REScheck, HERS, DOE ZER	18	6	12	0	0	16	0	78

Projects not meeting point thresholds set forth above shall pay a mitigation fee as follows:

Fee for projects which do not satisfy the overall minimum number of points = Square footage of project x number of points short of threshold x \$.15. For example, a 4,000 square foot project that is 5 points short would be assessed a fee as follows:

$$4000 \times 5 \times \$.15 = \$3,000$$

Note that the LEED Gold Living Building **and Passive House PHIUS** pathways are only held to the “0” point minimum threshold if the certification is achieved and documentation is available to the Town Building Official prior to issuance of CO. If certification is not achieved, projects will be held to the minimum thresholds.

Projects meeting the overall minimum number of points, but which do not meet the minimum threshold per subcategory can apply for points in Subpart 7, Innovation Points for review by the Town Building Official. It is at the Town's sole discretion whether these innovation points are eligible. If a project is not eligible for innovation points or otherwise cannot satisfy the points for a subcategory, a mitigation fee shall be paid.

Fee for shortfall in **each** of the subcategories = Square footage of project x number of points short of threshold x \$0.05.

(e) Type I Sustainable Building Regulations—Point Details. The qualification of what is required by the applicant and at what point in the building permit process compliance will be confirmed is provided in this subsection.

(1) Part 1: Site/water conservation.

a. Part 1.01: Limit site impact to fifteen (15) feet beyond building footprint.

Qualification: Show detailed construction management plan with sediment fence/limits of construction no more than fifteen (15) feet around proposed building footprint. Driveway and material storage exempted. Thinning required for wildfire mitigation is exempt. Show areas impacted by construction on landscaping plan.

Points: 3.

Confirmation: Will be at plan review and foundation inspection.

b. Part 1.02 Water efficient, **fire resistant** and edible landscaping.

Qualification:

- Automatic controllers **and rain sensors** are required for irrigation systems.
 - Limited turf: Irrigated turf area must be equal or less than forty percent (40%) of landscaped area, or one thousand (1,000) square feet, whichever is smaller. **Any Turfgrass installed shall be low evapotranspiration (ET), drought tolerant and require no more than one inch of water every two weeks. Turfgrass shall be prohibited for use in non-active use areas.** Show turf areas and drip-irrigation lines/beds on landscaping plan. Irrigation systems shall be controlled with automatic timer and rain sensors. The Town Building Official may determine whether this standard is applied on a lot-by-lot basis or whether the common area on a project may be considered in satisfying this standard. The intent is that an entire planned development meets the requirement.
 - Edible landscaping: A minimum of fifty (50) square feet must be prepared and dedicated for edible landscaping consisting of permanent in-ground planting areas or raised beds. Consideration for wildlife must be considered and must be approved by Colorado Parks and Wildlife.
 - Xeriscaped: Landscaping plan must only show xeriscape plants listed by Colorado Waterwise, or source recognized by the Town Building Official. Landscape plan must meet landscaping minimum standards. Temporary irrigation is permissible during plant establishment period. Landscaping must be planted prior to CO to be eligible.
 - **FireWise: Creating a defensible space around your residence home is crucial in surviving wildfires. Utilizing fire resistant landscaping methods as outlined on CSU's Extension website (<https://extension.colostate.edu/topic-areas/natural-resources/fire-resistant-landscaping-6-303/>), produced in cooperation with the Colorado State Forest Service and per the References noted at the bottom of the website will not only reduce water use, but it will increase the residence's ability to survive a wildfire.**

Points: limited turf or edible landscaping: 2 pts., Xeriscaped **or FireWise landscaping**: 4 pts.

Confirmation: will be at plan review and final inspection. If a final building inspection is done and the landscaping is not yet in, these points cannot be acquired.

c. Part 1.03 Storm water and/or non-potable water for irrigation.

Qualification: Provide a grading plan which illustrates the principle and construct swales to maximize distribution of surface drainage to planted areas on site, or direct surface drainage to a larger, neighborhood ecosystem. Subsurface "deep-root" irrigation for individual plantings also qualifies.

Points: 4.

Confirmation will be at plan review and final inspection.

d. **Part 1.04 Greywater Use for Irrigation**

Qualification: Install a 3-way valve that separates the greywater fixtures from the sewer/septic fixtures and diverts this water to the landscaping OR plumb the sewer and graywater separately.

Points: 6.

Confirmation will be at plan review and final plumbing inspection.

e. **1.05 Food production: On site greenhouse.**

Qualification: Greenhouse must be built for food production and must be isolatable from living space and must be greater than thirty (30) square feet. Any supplemental heating for the greenhouse must be provided by a separately controllable system or zone with a maximum temperature set point of fifty (50) degrees F.

Points: 4.

Confirmation will be at plan review and final inspection.

f. **Part 1.06 Ultra-low or dual-flush toilets.**

Qualification: All toilets must be ultra-low (**1.28 gpf of less**) or dual flush per current EPA WaterSense requirements.

Points: 2 per fixture, 6 maximum (**or if all fixtures in building qualify**)

Confirmation will be at plan review and final inspection.

g. **Part 1.07 Low-flow showerheads.**

Qualification: Shower heads that meet or exceed the current EPA WaterSense requirements (**2.0 gpm or less**) must be installed. Provide any documentation for on-site inspection. Only one (1) shower head in each shower **shall be installed** to obtain points.

Points: 1 per fixture, 3 maximum (**or if all fixtures in building qualify**)

Confirmation will be at plan review and final inspection.

h. **Part 1.08 Low-flow bathroom faucets.**

Qualification: Bathroom sink faucets must be WaterSense listed and labeled, **using 1.5 gpm or less**. Listings of approved products are available at www.epa.gov/watersense.

Points: 1 per fixture, 3 maximum (**or if all fixtures in building qualify**)

Confirmation will be at plan review and final inspection.

i. **Part 1.09 Energy Star clothes washer and/or dishwasher.**

Qualification clothes washer/dishwasher must be listed on www.energystar.gov or must be shown to have similar water usage.

Points: 1 per appliance, **2 maximum**

Confirmation will be at plan review and final inspection.

(2) Part 2: Recycling and reuse.

a. Part 2.01 Recycle - wood, concrete, metal scrap and cardboard.

Qualification: Must be shown on construction management plan. Labeled containers for concrete, metal, and/or cardboard construction waste located on site with evidence of use and service.

Points: 1 per material type, 3 maximum.

Confirmation will be ongoing through all inspections.

b. Part 2.02 Beetle-kill lumber for structural or nonstructural applications (2 pts. per application, 6 max).

Qualification: Material must be used for over fifty percent (50%) of each application.

Points: 2 per application, 6 maximum.

Confirmation will be at framing and final inspection.

c. Part 2.03 Donate surplus materials.

Qualification: Keep records and receipts of donated materials on the job site.

Points: 1 per trailer load, 3 maximum.

Confirmation will be at final inspection.

d. Part 2.04 Reclaimed and/or recycled-content materials.

Qualification: Use of construction materials that are either reclaimed from another structure, and/or any non-structural materials with recycled content in them qualify. Materials that are purchased from a reclaimed materials distributor, deconstructed by the owner/applicant from another structure, or that are purchased from a used building materials exchange all qualify as reclaimed materials (must provide documentation). Some common recycled-content materials include composite decking, recycled-content faux shake/slate roofing, cellulose or shredded cotton batt insulation, recycled-content carpets, countertops, recycled-content tile, etc. Provide material info onsite; field inspected. More than fifty percent (50%) of the material type in place must be reclaimed, recycled and/or recycled content; recycled content minimum for material shall be fifty percent (50%) post-consumer or seventy-five percent (75%) pre-consumer.

Points: 2 per material type; 4 maximum.

Confirmation: Material information/documentation must be on the job site with a field set of plans for inspection.

- e. Part 2.05 Built-in recycling and/or compost center **with composting service**.

Qualification: Design and build a recycling and compost collection center, in or adjacent to the kitchen, with at least two (2) bins for glass, cans, plastic, paper, compost and other common recycling items. Must include countertop compost collection bin **and a minimum of six (6) months of service with a local compost hauler**.

Points: 2.

Confirmation will be at plan review and final inspection.

- (3) Part 3: Framing and materials.

- a. Part 3.01 Insulated concrete forms (ICFs) for foundation.

Qualification: ICFs shown on structural drawings, must be used for more than seventy-five percent (75%) of the foundation.

Points: 5.

Confirmation will be at plan review and foundation inspection.

- b. Part 3.02 Insulated concrete forms (ICFs) for above-grade walls.

Qualification: ICFs shown on structural drawings; must be used for over seventy-five percent (75%) of exterior walls.

Points: 8.

Confirmation will be at plan review and framing inspection.

- c. **Part 3.03 Alternative Cementitious Materials in Cement used in Concrete**

Qualification: Provide letter from the batch plant that the cement used in the project's concrete mix used "alternative cementitious materials (ACMs)," such as fly ash or limestone, that reduce cement's CO2 footprint.

Points: 4.

Confirmation will be at foundation inspection.

- d. Part 3.04 Double wall framing.

Qualification: Show wall elevations on plans. Double wall framing must be incorporated in seventy-five percent (75%) or more of the building.

Points: 6.

Confirmation will be at plan review and framing inspection.

- e. Part 3.05 Incorporate optimal value engineering (OVE) framing techniques.

Qualification:

- Subpart 3.04.1—Use twenty-four-inch on center studs for over seventy-five percent (75%) of the structure.

- Subpart 3.04.2—Use two-stud or California type corners for over seventy-five percent (75%) of the structure.
- Subpart 3.04.3—Use efficient headers for over seventy-five percent (75%) of the structure. "Efficient headers" refers to insulated headers on exterior walls or eliminate headers in non-load bearing walls.

Points:

- Subpart 3.04.1: 3 points.
- Subpart 3.04.2: 3 points.
- Subpart 3.04.3: 3 points.

Confirmation will be at plan review and framing inspection.

f. Part 3.06 Structural elements.

Qualification:

- Subpart 3.05.1: Engineered wood joists used for > fifty percent (50%) of flooring system.
- Subpart 3.05.2: Engineered wood rafters or prefab trusses > fifty percent (50%) roof framing.
- Subpart 3.5.3: Engineered wood studs for > fifty percent (50%) of the structure.

Points:

- Subpart 3.05.1: 1 point.
- Subpart 3.05.2: 1 point.
- Subpart 3.05.3: 3 points.

Confirmation will be at plan review and framing inspection.

g. Part 3.07 Pre-cut, prefabricated elements.

Benefit: Pre-cut or off-site construction of structures reduces material waste.

Qualification:

- Subpart 3.07.1: Pre-cut studs and trusses > seventy-five percent (75%) of structure.
- Subpart 3.07.2: Panelized/prefabricated walls/modular sections.

Points:

- Subpart 307.1: 2 points.
- Subpart 3.07.2: 4 points.

Confirmation will be at plan review and framing inspection.

- h. Part 3.08 Forest Stewardship Council (FSC) or Sustainable Forestry Initiative (SFI) certified materials for framing (used in < fifty percent (50%) of the building).

Qualification: Wood certified by the Forest Stewardship Council (FSC). Material must be used in over fifty percent (50%) of building.

Points: 3.

Confirmation will be at plan review and framing inspection.

- i. Part 3.09 Structural insulated panels (SIPs) or straw bales used for exterior walls.

Qualification: Must be used for > seventy-five percent (75%) of exterior walls.

Points: 10.

Confirmation will be at plan review and framing inspection.

- j. Part 3.10 Materials manufactured in Colorado.

Qualification: Provide documentation on-site for any materials used that are manufactured in state. Concrete does not qualify.

Points: 2 per material used, 6 maximum.

Confirmation will be at final inspection.

- k. Part 3.11 Sustainable Forestry Initiative (SFI) or Forest Stewardship Council (FSC) certified materials products.

Qualification: Wood products certified by either the Forest Stewardship Council (FSC) or Sustainable Forestry Initiative (SFI). In order to qualify, one hundred percent (100%) of each of the building materials used must be certified.

Points: 2 per material type, 12 maximum.

Confirmation will be at the final inspection.

- k. Part 3.12 Roofing materials: Lifespan greater than thirty (30) years or > seventy-five percent (75%) recycled content.

Qualification: Install roofing with minimum thirty-year life or roofing with greater than seventy-five percent (75%) recycle content. Roofs that typically will qualify for seventy-five percent (75%) recycled content include metal and faux shake/slate roofing. Provide a cut sheet for roofing with a thirty-year warranty or recycled content.

Points: 2.

Confirmation will be at plan review and final inspection.

(4) Part 4: Energy.

- a. Part 4.01 Continuous air barrier.

Qualification: **The primary** air barrier must be **recognized on the plans by the materials that compile it, and these must be** continuous and shown on construction drawings **with a red line.**

Points: REQUIRED.

Confirmation will be at plan review and insulation inspection.

b. Part 4.02 Eliminate Use of Foams with a High GWP (Global Warming Potential) Blowing Agents

Qualification: Provide product specs at insulation inspection. Insulating foams containing HFC-245fa as a blowing agent in spray foam and HFC-134a in XPS board is not permitted.

Points: REQUIRED.

Confirmation will be at insulation inspection.

c. Part 4.03 Baseline Blower Door Test & Energy Assessment - Remodels Only

Qualification: Submit baseline blower door test and energy assessment with permit submittal. A final blower door test showing a minimum 15% increase in air tightness shall be submitted prior to the final building inspection. 15% ACH50 if volume remains the same. If volume is added, an improvement of 15% cfm/SF of dwelling unit enclosure area, which is based on the envelope, shall be used. Mechanical ventilation is required if the residence has 5.0 ACH50 or less. This can be achieved via the following methods. Note these methods are only acceptable for remodels:

- Exhaust-only - Exhaust-only systems use kitchen, bath, and/or laundry fans to exhaust stale air locally and from the whole house residence. The fans are set to run continuously or intermittently on timed controls.
- Supply - Central fan-integrated supply ventilation provides outdoor air through an outdoor air intake that is ducted to the return side of the residence's central heating and cooling system air handler for filtering, heating or cooling, and distribution to the house through the HVAC system ducts.
- Balanced - Heat recovery ventilators (HRVs) simultaneously bring in outdoor air and exhaust indoor air, with both ducts passing through a heat exchanger for heat recovery. Energy recovery ventilators (ERVs), function like HRVs but move and transfer both heat and moisture. ERVs and HRVs may be connected to the residence's central air handler and duct system or independently ducted.

Points: REQUIRED.

Confirmation will be at plan review and final inspection

d. Part 4.04 Airtight J boxes for all exterior walls.

Qualification: Install airtight boxes at all exterior wall locations. The boxes must be sealed where the wires enter the box as well as between the box and drywall.

Points: REQUIRED

Confirmation will be at plan review and framing inspection.

- e. Part 4.05 Roof/ceiling insulation.
Qualification: Show roof/ceiling insulation **detail** and install **accordingly**. Post completed insulation certificate in mechanical room.
Points: 1 to 15—One point for each R value over current IECC Code minimum, up to 15 points maximum.
Confirmation will be at insulation inspection.
- f. Part 4.06 Reflective radiant barrier.
Qualification: Show and specify a reflective radiant barrier on roof/ceiling insulation plan. Install a reflective radiant barrier on the "ceiling" or "floor" of the attic, or under the roof sheathing of a vaulted ceiling.
Points: 2.
Confirmation will be at framing if installed on or under roof sheathing; or insulation inspection if laid over insulation.
- g. Part 4.07 Wall insulation.
Qualification: Show wall insulation in construction plans. Install per plan. Post completed insulation certificate in mechanical room **and send to the Town Building Official**.
Points: 1 to 15—One point given for each R value over current IECC Code minimum, up to 15 points maximum.
Confirmation will be at insulation inspection.
- h. Part 4.08 Continuous exterior insulation.
Qualification: Exterior **continuous** insulation must be detailed on the plans.
Points: 1 to 10—One point given for each R value over current IECC Code minimum, up to 10 points maximum.
Confirmation will be at insulation inspection.
- i. Part 4.09 Slab insulation.
Qualification:
Provide location of insulation of slab in construction drawings: **Provide detail to account for thermal bridging at perimeter. For unheated slabs, continuous R-10 minimum insulation, 2 points; for continuous R-15 minimum insulation, 3 points.**
Points: **R10, 2 pts.; R15, 4 pts.**
• **R10, 2 pts.; R15, 4 pts.**
Confirmation will be prior to slab pour.
- j. Part 4.10 Crawl space/basement wall insulation.

Qualification: For crawl space and/or basement walls, show insulation of wall in construction plans. Install per plan. Insulation must be continuous for the entire wall **height, from slab or floor up through the rim joist.**

Points: 1 pt. for Total R-values, in increments of 5, over current IECC Code minimum, up to 2 pts.

Confirmation will be at insulation or final inspection.

k. Part 4.11 Blown or sprayed insulation.

Qualification: Specify blown fiberglass or cellulose, or spray-foam insulation on plans. Blown insulation installed in attics/ceilings, walls, and basements/crawl spaces. **Spray foam shall not contain HFC-245fa as a blowing agent.**

Points: 1 per Quantity Level—One point given for each quantity level of blown or sprayed insulation installed. For example, if eighty percent (80%) of the insulation in a structure is blown in, then quantity level 4 (76—100%) or 4 points would be given.

Confirmation will be at insulation inspection.

l. Part 4.12 High performance windows.

Qualification: Provide window manufacturer specifications with window schedule as part of construction plans. Leave window labels in place until inspected.

Points: 10 points maximum. 2 points for each U-.02 below current IECC Code maximum.

Confirmation will be at plan review and insulation inspection.

m. Part 4.13 Insulate all hot water pipes at all locations.

Qualification: Closed cell foam or fiberglass pipe insulation with a minimum **with R3 minimum on all water piping.**

Points: 1.

Confirmation will be at the insulation inspection.

n. Part 4.14 Radiant floor/heating system.

Qualification: In-floor radiant heat qualifies provided over fifty percent (50%) of the heating needs of the structure are met by hydronic means. **Boilers must be of modulating type and minimum 92% AFUE.**

Points: 4 points for 50% and 8 points for 100% of heating needs.

Confirmation will be at mechanical rough-in and final inspection.

o. Part 4.15 Heat pump for heating and cooling.

Qualification: **Cold climate air-source heat pump to cover 100% of cooling and heating load - HSPF > 10 and SEER > 16 minimum efficiency requirements per AHRI Directory.**

Points: 12 points

Confirmation will be at plan review and final mechanical inspection.

p. Part 4.16 No gas line or propane onsite.

Qualification: No natural gas line or propane on site. All heating equipment to be a heat pump or other high efficiency / renewable system.

Points: 12 points

Confirmation will be at plan review and foundation inspection.

q. Part 4.17 HERS rated house.

Qualification: Submit documentation with plans from an (HERS) professional including calculations showing an index less than **45** (all-electric) / **40** (dual fuel) per Basalt Ordinance and, at completion of the project, an As-Built Energy Rating Report with final rating. 5 points will be given for an index rating 5 below current Basalt Ordinance minimum, **9** pts. maximum.

Points: 5 to **9**.

Confirmation will be upon presentation of the qualifying As-Built Energy Rating Report and is required prior to **final building inspection certificate of occupancy**.

r. Part 4.18 Blower door test.

Qualification: Complete a blower door test by a certified professional that accurately shows air changes per hour (ACH) @ 50 Pascals. Test results must show ACH of current IECC Code minimum; 1 point for each increment of 0.5 below IECC Code minimum, ACH50, up to 6 points.

Points: 1 to 6.

Confirmation will be upon presentation of the qualifying test results. Should be done prior to insulation installation.

s. Part 4.19 Insulating window coverings installed.

Qualification: Window coverings must be installed on seventy-five percent (75%), or more, of the windows and have a minimum R-3 to qualify. Some common options are duet/cellular shades, or quilted shades.

Points: 3.

Confirmation will be at final inspection.

t. Part 4.20 Efficient boiler or furnace.

Qualification: Specify and install a heating appliance with an AFUE percentage rating of at a minimum of eight percent (8%) above current IECC code minimum, refer to C403.

Points: 1 to 7—If a boiler and/or furnace with a (combined) AFUE rating of eight percent (8%) above current IECC code minimum is installed, then one point is given. For each point of efficiency above that, an additional point is given, 7 points maximum.

Confirmation will be at the final inspection.

- u. Part 4.21 Ductwork in conditioned spaces or insulated above IECC minimum.

Qualification: Keep all ductwork within thermal envelope. **All joints and seams must be sealed with mastic to qualify for these points.** Or, ducts in unconditioned space should be sealed with mastic at all joints and insulated over a minimum R-6 (if duct is < three (3) inches or area); R-8 (if duct is equal to or > three (3) inches in diameter or area).

Points: 2, for all ductwork within conditioned space; or, 1 for properly sealed and insulated ductwork above IECC minimum in unconditioned space.

Confirmation will be at the insulation inspection.

- v. Part 4.22 No mechanical air conditioning.

Qualification: Proper design of building aspect, window sizing and placement, overhang shading, and insulation, can eliminate the need for air conditioning systems in our climate. No components for a roughed-in system should be installed.

Points: 4.

Confirmation will be at final inspection.

- w. Part 4.23 Programmable thermostats.

Qualification: Thermostats that automatically change to programmed temperature settings must be installed and be functional.

Points: 1 point per each fifty percent (50%) of heated building space, 2 maximum.

Confirmation will be at final inspection.

- x. Part 4.24 Thermostats for each room.

Qualification: Each enclosed room must have a separate thermostat, not including storage areas, closets, bathrooms, mechanical rooms, or non-habitable space.

Points: 2.

Confirmation will be at final inspection.

- y. Part 4.25 Tankless on-demand water heater(s), **heat pump hot water heater, side-arm or combined space and water heating appliance.**

Qualification: Gas or electric tankless models qualify and must meet over **seventy five percent (75%)** of total domestic hot water needs. A combined (space and water heating) appliance or a condensing water heater **that is modulating** with a thermal efficiency rating above current IECC minimums **also** qualify.

Points: 3.

Points: **1 to 3 (tankless systems, heat pump hot water heaters and combined space and water heating get 3 points. Side-arm boilers qualify for one (1) point**

as part of a modulating condensing boiler with AFUE efficiency above the current IECC minimum.)

Confirmation will be at **rough-in inspection**.

z. Part 4.26 Energy Star appliances.

Qualification: Any appliances, other than those credited for water conservation (Section 1.9), with the EPA's Energy Star logo on them and/or listed on www.energystar.gov website qualify.

Points: 1 pt. per appliance, 4 maximum. An Energy Star washer and dishwasher may receive points from both Part 1.8 and this part.

Confirmation will be at final inspection, with appliances installed and operable.

aa. Part-4.27 Ceiling fans/air destratification system in common rooms.

Qualification: Show units/systems in construction plans.

Points: 1 per fan, 4 maximum.

Confirmation will be at final inspection.

bb. Part 4.28 Exterior lighting minimized.

Qualification: Exterior lighting plan to be submitted with construction plans. **Maximum output shall be 3000 lumens and the maximum color temperature shall be 3000k.**

Points: 2.

Confirmation will be at plan review and the final inspection.

cc. Part 4.29 Motion detecting light switches.

Qualification: Install motion-detection-controlled lighting or as an integrated unit or by a remote motion sensor for closets, basements, etc. **Bathroom fan switches also qualify.**

Points: 1 to 4 — One point is given for each motion detection / **bathroom fan** switch installed, up to 4 points.

Confirmation will be at final inspection.

(5) Part 5: Renewable energy and beneficial electrification.

- a. **Part 5.01 Building electrification is mandatory. Buildings shall be “battery-ready” (with *electrical service reserved space*), “electric-ready” with “electrification-ready” circuits, include an *EV Ready Space* as well as be “solar-ready” with mandatory solar per Part 5.02. A house load calculation from a certified electrician or approved third party is required. This is applicable to new construction, additions 500 SF and greater, and Level 3 remodels, only if the remodel exceeds 50% of the conditioned floor area AND is greater than 750 SF.**

Qualification: Provide a calculated load form that is submitted to the electric utility that has appropriate breaker and panel sizing for future conversion to all electric. Also document the following on the Construction Documents:

- **Electrical Energy Storage System / Battery Ready Area:** The location and layout diagram of the electrical energy storage system ready area shall be indicated on the construction documents and is exempt from FAR calculations. Each building shall be required to have an Electrical Energy Storage System Ready area. The floor area of the electrical energy storage ready area shall not be less than 2 feet (610 mm) in one dimension, 4 feet (1219 mm) in another dimension, 18” out from the wall, and located in accordance with Section 1206.2.8 of the International Fire Code and Section 110.26 of the NFPA 70 and near the main electrical panel. The main electrical service panel shall have a reserved space to allow installation of a two-pole circuit breaker for future electrical energy storage system installation This space shall be labeled “For Future Electric Storage.”
 - **Exception:** Where an onsite electrical system storage system is already installed.
- **Electric-ready:** All systems shall be pre-wired for transition to electric. This includes the water heater, clothes dryer, stove, and HVAC system, with adequate panel capacity. A dedicated minimum 125-volt, 20-amp electrical receptacle that is connected to the electric panel with a 120/240 volt 3 conductor, 10 AWG copper branch circuit, shall be provided within 3 feet from each gas or propane water heater, clothes dryer, stove and HVAC system, accessible with no obstructions. A single pole circuit breaker space must be reserved in the electrical panel adjacent to each circuit breaker for the branch circuit and labeled with the words “FUTURE 240V USE.”
- **Electrical service reserved space:** The main electrical service panel shall have a reserved space to allow installation of a two-pole circuit breaker for future electrical energy storage system installation This space shall be labeled “For Future Electric Storage”. The reserved spaces shall be positioned at the end of the panel that is opposite from the panel supply conductor connection. Any electrical energy storage system that is installed shall meet all requirements of the IFC, Section 1207.
- **Electric Vehicle (EV) Ready Space:** A designated parking space that has a full circuit installation of 208/240-volt (or greater), 40-ampere (or greater) panel capacity, raceway wiring, receptacle and circuit overprotection devices to allow for the future installation of EV Supply Equipment (EVSE). The receptacle or junction box shall be located in close proximity to the proposed location of the EV parking space. For two adjacent EV-Ready spaces, a single branch circuit is permitted.
- **Solar-ready:** On the construction documents show proposed location of solar (and square footage) on the roof and all mechanical / plumbing penetrations that will go through the roof. Also identify the orientation (Azimuth) and inclination of the proposed array.

Points: REQUIRED.

Confirmation will be at plan review and rough-in inspections.

b. **Part 5.02 Mandatory Solar**

Qualification: 3.0 watts per square foot of the conditioned floor area (CFA) (or 25% annual energy use) as defined above if the house utilizes both gas and electrical. The required solar is reduced to 2.0 watts per CFA (or 15% annual energy use) if the house is all-electric. This the minimum solar requirement for each house and not in addition to that required to achieve the minimum HERS rating. This is applicable to all new construction. Additions 500 SF and greater, remodels classified as a Level 3 remodel, in which the impacted floor area of the remodel is more than 50% of the conditioned floor area AND is 750 SF or greater, 2.0 watts per SF for a dual fuel house or 1.5 watts per SF for all-electric of solar will be required on the building, for the entire *conditioned floor area*. Exceptions and options are below:

1. Shading: Houses that do not have access to solar energy, as verified by an approved third party, approved by the Town Building Official, can provide the renewables offsite by purchasing renewable energy via a method approved by the town.

2. Fee in lieu of 200% (twice as much) penalty of required renewables to be calculated per Section 18-14 Fees.

3. Houses that have a total calculated total solar array under 5kW, including any renewables needed to achieve the HERS score as well as the standard watt per SF requirement, have the option to pay a fee in lieu of 100% penalty of required renewables.

Points: REQUIRED.

Confirmation will be at plan review and final building inspection.

c. **Part 5.03 Passive solar design.**

Qualification: Site must have reasonably unobstructed solar access. Site plan must show a Sun Angles Dial along with the North Arrow, showing at minimum angles of sunrise, angles of the sun at noon, and angles of sunset, for summer solstice, equinox, and winter solstice respectively. In Basalt, the angles of the noon sun are sixty-eight (68), forty-seven (47), and twenty-five (25) degrees for summer solstice, equinox, and winter solstice, respectively.

Qualification (specific):

• Subpart 5.03.1 Optimize glazing/orientation: The building should be simple in shape, elongated east to west with the south-facing side of the house having the majority of the glazing and oriented within 30 degrees of true south and not shaded by other buildings or trees. Install south-facing glass from twelve (12%) to twenty percent (20%) of total heated floor area. Effective south-facing windows require a high Solar Heat Gain Coefficient (SHGC), typically 0.60 or higher to maximize heat gain

- Subpart 5.03.2 Shading: Provide proper shading according to the formula $E = H/3.38$, or conversely, $H = E \times 3.38$, where E = eave depth, and H = height of bottom of window from the eave.

- Subpart 5.03.3 Thermal mass: For each square foot of south-facing glass, provide at minimum an equivalent square footage of thermal mass interior walls and/or floor reached by the solar gain. Examples of thermal mass include concrete, gypcrete, tile, masonry or stone floors; double-layered sheetrock, masonry, stone, adobe walls.

Points: 25 points total.

Confirmation will be at plan review and final inspection.

d. Part 5.04 Solar hot water system for domestic hot water.

Qualification: Install a solar hot water system, which includes rooftop or ground-mounted panel collectors connected to a heat exchanger and/or insulated storage tank for domestic hot-water supply. System must have unobstructed solar access. Systems may be active, using solar or electric pumps, or they may utilize a thermal siphon. Collectors must be facing within twenty (20) degrees of due south, and between thirty (30) and fifty (50) degrees from horizontal. System size is dependent on **the** number of bedrooms. Evacuated-tube collectors are typically twenty-five percent (25%) more efficient than flat plate collectors. Parenthesized areas are minimum requirements for evacuated-tube collectors.

Points: 8.

Confirmation will be at plan review and final inspection.

e. Part 5.05 Integrated solar hot water system that supplements both radiant floor heat and domestic hot water.

Qualification: Install a solar hot water system sized as ~~previous (bedroom-based)~~ **appropriately and** that provides heat for radiant floor heating as well as domestic hot water. Show system in construction plans and schematics.

Points: 16.

Confirmation will be at plan review and final inspection.

f. Part 5.06 Solar hot-water system rough-in only.

Qualification: Two (2), well-secured runs of copper plumbing pipe, three-fourths-inch minimum, insulated to an R-6, minimum, must be installed in an interior wall between the attic/roof and the mechanical room or area that could house the storage tank/heat exchanger. An 18/2 (thermostat) wire (or one-half-inch conduit) must also be run at the same location for future control installations. The plumbing and wiring should terminate in an attic space under the roof that will support the solar collectors, and it shall be above the insulation for easy sighting. If there isn't an attic space, the piping and wiring shall end after penetrating the roof that will support the collectors. Ends of installed pipes and wires must be labeled "solar"; pipes and conduit must be capped or effectively sealed; wires terminating outside must be in a sealed

junction box. Provide three (3) feet by three (3) feet of floor space for a future storage tank.

Points: 2.

Confirmation will be at plan review and final inspection.

g. Part 5.07 Solar photovoltaic system.

Qualification:—Solar installed beyond what is required per 5.02 (Mandatory Solar) and the HERS score shall receive 10 pts per kW installed (1 point per 0.1 kW).

Points: 10 for every 1 kW installed to a maximum of 50.

Confirmation will be at plan review and final inspection.

h. Part 5.08 Ground source heat pump (geothermal) system.

Qualification: Five (5) points are given for each quantity level of the structure's heating/cooling needs met by the system. If utilized for a snowmelt system, total energy calculations must include exterior energy use(s) as well.

Points: 10 to 40—10 points per quantity level. For example, if the system met sixty percent (60%) of the structure's heating/cooling needs, quantity level 3 (51—75%), 10 points per quantity level, 30 points would be given.

Confirmation will be at plan review and final inspection.

i. Part 5.09 High-efficiency **wood-burning (or biomass)** stove.

Qualification: Specify stove make and model number on plans. Stove may generate no more than 2.0 grams/hour of particulate and must exceed seventy-five percent (75%) efficiency as determined by EPA (New Source Performance Standard for New Residential Wood Heaters) test methods using Low-Heat Value protocol. Provide EPA "Temporary Label", manufacturer's (IRS) certification statement, or other documentation at plan review. Installation must conform to manufacturer's recommendations at final inspection.

Points: 4.

Confirmation will be at plan review and final inspection.

j. **Part 5.10 Battery storage installed with PV.**

Qualification: Install batteries that will cover essential loads for one day. Provide load calculation from the electrician, minimum 12.5 kWh. Or install a Smart Wall system.

Points: 4, Smart Panel 8

Confirmation will be at plan review and final inspection.

k. **Part 5.11 EV (Electric Vehicle) Charger installed.**

Qualification: Install EV charger.

Points: 4 each, 8 max

Confirmation will be at plan review and final inspection.

(6) Part 6: Indoor air quality.

- a. Part 6.01 Formaldehyde-free and/or low-toxic insulation.

Qualification: Insulation must be labeled as formaldehyde-free or SPOT UL-certified at <https://spot.ul.com>.

Points: REQUIRED.

Confirmation will be at plan review and insulation inspection.

- b. Part 6.02 Low- or zero-VOC and/or low-toxic interior paint, stain/finishes, and adhesives.

Qualification: Products must be either labeled "Low or no VOC", Greenguard certified www.greenguard.org, or show that VOC levels are below EPA thresholds.

Points: REQUIRED.

Confirmation will be at final inspection.

- c. **6.03** Radon mitigation.

Qualification: Design and install a **passive** radon mitigation system that removes radon or other soil gas from under the slab/crawl space and vent per EPA guidelines. More information is available at <http://www.epa.gov/radon/index> and www.buildingscience.com. **A fan shall be added to the radon system if radon test indicates that levels are over EPA's 4 pCi/L threshold. A radon test must be submitted prior to building final.**

Points: **REQUIRED**

Confirmation will be at plan review and foundation inspection.

- d. Part 6.04 Mold prevention: Moisture management strategy.

Qualification: Submit drawings **detailing the envelope assemblies with the air, water, thermal and vapor barriers drawn. Drawings** must show how the walls and roof will be able to dry **and in which direction**. For remodels, **the** source of mold must be identified and mitigated. In crawlspaces, install six (6) mil clear plastic as a vapor barrier over the dirt surface and overlap floor seams twelve (12) inches, and glue to **the** foundation wall. This treatment reduces ground gasses from entering the residence and reduces winter evaporative cooling, and the furnace load substantially.

Points: REQUIRED.

Confirmation will be at plan review and the insulation inspection.

e. Part 6.05 **Smart Vapor Retarder in Wall Assembly**

Qualification: Install a **smart** vapor-retarder system **that allows moisture to leave the assembly both inward or outward, depending on the season.**

Points: 5.

Confirmation will be at plan review and insulation inspection.

f. Part 6.06 Exhaust range hood outside

Qualification: Install a range hood to exhaust not more than two hundred (200) CFM to the outside. Larger hoods (400 CFM and greater) are required to provide make-up air to prevent depressurization. Hoods larger than six hundred (600) CFM are not permitted in a residence.

Points: 2.

Confirmation will be at plan review and final inspection.

g. **Part 6.07 Use of an induction cooktop stove.**

Qualification: Install an induction cooktop stove.

Points: 2.

Confirmation will be at plan review and final inspection.

h. **Part 6.08 Installation of a Fresh Air System with greater than 80% energy recovery.**

Qualification: Install of an efficient ERV / HRV with energy recovery equal to or greater than 80%.

Points: 6.

Confirmation will be at plan review and final inspection.

i. Part 6.09 Low-or non-toxic floor coverings.

Qualification: Materials must be below **EPA thresholds for low/non-toxicity or certified GREENGUARD materials.**

Points: 1 per quantity level—Quantity level is determined by the percentage of total floor area meeting the above criteria. For example, if eighty percent (80%) of the total flooring was nontoxic, then quantity level 4 (76—100%) would apply, 1 point per Quantity Level, so 4 points would be given.

Confirmation will be at plan review and final inspection.

j. Part 6.10 All furnaces, fireplaces, boilers, gas water-heaters **are** sealed combustion/direct vented.

Qualification: Submit appliance specifications with construction plans.

Points: **2**.

Confirmation will be at final inspection.

- k. Part 6.11 High-efficiency filter on HVAC system (**MERV 8, 4 pts., > MERV 8, 5 pts.**).

Qualification: Specify and install a **filter with a** minimum efficiency reporting value (MERV) eight (8) or higher that effectively filters one hundred percent (100%) of **the** HVAC system. The MERV scale ranges from one (1) to twenty (20).

Points: **MERV 8: 4 pts; > MERV 8: 5 pts.**

Confirmation will be at final inspection.

- (7) Part 7: Innovation points.

Innovative product use and/or design points will be given points on a case-by-case basis. The item must specifically meet the intent of the sustainable building regulations guidelines as stated at the beginning of this guidelines document, and points will be scaled as the item would apply to similar comparable items in the guidelines, as determined by the plans examiner.

Some options eligible for Innovation Points may include but are not limited to: "Passive House", **post-construction debriefing meeting between contractor, architect, engineers, etc.**, frost-protected shallow foundation, Trombe wall/interior thermal massing systems, evapotranspiration watering system, on site co-generation power system, passive solar lighting, **providing ongoing monitoring system (Garfield Energy Navigator)**, etc.

- (f) Type I Sustainable Building Regulations—Exterior Energy Use. **Reference Section 18-23 (F) above for all types of exterior energy use. These uses must be mitigated on-site, or pay a fee as calculated by the Town of Basalt's REMP Calculator.**

Note: Proposed changes to the Code in this section include additions in BOLD. Numbering has been updated in some areas to reflect additions, deletions and reordering of items. Additions made to Table I Type II Point Thresholds include underlined text for clarity.

Exhibit C

Sec. 18-25. - Type II Sustainable Building Regulations (SBR)—Non-Residential, and Multi-family Residential Construction.

(a) Applicability. Type II apply to:

- (1) All new non-residential, mixed use, townhome (non-single-family construction) and/or multi-family construction not covered by the Type I Sustainable Building Regulations.
- (2) Tenant finish to buildings covered by the Type II SBRs previously built as a core and shell.
- (3) Remodels to building covered by the Type II SBRs at Level 2 Category, per the International Existing Building Code.
- (4) Remodels to buildings covered by the Type II SBRs at Level 3 Category or **change of occupancy** per the International Existing Building Code or include more than two thousand (2,000) square feet of conditioned floor area.
- (5) Additions and detached garages to building covered by Type II SBRs of conditioned building area, greater than five hundred (500) square feet.

Applicants for construction subject to the SBR regulations must demonstrate ability to comply with the appropriate threshold level established by Subsection (c) below and to meet the items marked as REQUIRED prior to building permit based on conditioned building area and must demonstrate ability to comply before any new construction, remodel, addition or tenant finish begins; this compliance must be verified prior to a certificate of occupancy or certificate of completion is granted by the Town Building Official.

(b) Exceptions:

- (1) Remodels to buildings covered by the Type II SBRs at the Level 1 Category.
- (2) New manufactured housing approved by Colorado Department of Housing, **and which is ENERGY STAR certified.**
- (3) One-story attached or detached additions of conditioned space, provided that the floor area does not exceed five hundred (500) square feet or detached additions of any space provided the space is not conditioned.
- (4) Remodels that fall under the Level 1 Categories per the International Existing Building Code.

(c) **Compliance Paths:** Building permit applicants must inform the Town Building Official at the time of building permit application which of the following paths will be used to satisfy the SBR II point thresholds.

(1) Prescriptive which has the following sub paths plus a minimum of 10 credits from Tables C406.1(1) through C406.1(5) of the IECC and recognized by the Town of Basalt. Tenant Spaces shall achieve a minimum of 5 credits.

- R-value based.
- Assembly U, C and F-factor.
- Component performance alternative/COM check. **Additional energy efficiency credit requirements per C406.1:**
 - i. More efficient HVAC performance in accordance with Section C406.2.
 - ii. Reduced lighting power density in accordance with Section C406.3.
 - iii. Enhanced digital lighting controls in accordance with Section C406.4.
 - iv. Provision of a dedicated outdoor air system for certain HVAC equipment in accordance with Section C406.
 - v. High-efficiency service water heating in accordance with Section C406.7.
 - vi. **Enhanced envelope performance in accordance with Section C406.8.**
 - vii. **Reduced air infiltration in accordance with Section C406.9.**
 - viii. **Where not required by Section C405.12, include an energy monitoring system in accordance with Section C406.10.**
 - ix. **Where not required by Section C403.2.3, include a fault detection and diagnostics (FDD) system in accordance with Section C406.11.**
 - x. **Efficient kitchen equipment in accordance with Section C406.12.**

(2) ANSI/IESNA/ASHRAE/90.1.

(3) Building performance per C407.

(4) ***Living Building Certification or Petal Certification (If pursuing Petal Certification, one (1) of the three (3) required petals must be Energy). The Town's fee schedule provides for rebates in the building permit fee for this compliance path. Rebate available only after certification is achieved.**

(5) ****LEED GOLD or better per the most recent version by the USGBC. The Town's fee schedule provides for rebates in the building permit fee for this compliance path. Rebate available only after certification is achieved.**

***Indicates an "above-code" compliance option, which is exempt from the SBR program; however, IECC requirements still apply.**

****Indicates an "above-code" compliance option exempt from the SBR program, Parts 1.0 - 4.0 and Parts 6.0 - 7.0 only. Part 5.0 Renewable Energy and Beneficial Electrification shall still apply. IECC requirements still apply.**

(d) **Requirements.** Conditioned floor area subject to Type II Sustainable Building Regulations must satisfy all IECC mandatory requirements for the path chosen by the applicant. The conditioned floor area must satisfy the point thresholds as shown below in Table 1 for each type of development subject to Type II regulations. In addition, all new construction subject to SBR II regulations must satisfy items identified as REQUIRED. All tenant finishes and remodels subject to SBR II requirements must satisfy the items identified as REQUIRED unless they are not applicable.

Conditioned floor area subject to Type II Sustainable Building Regulations must satisfy all IECC Mandatory Requirements, plus any additional requirements listed in the current code and this Ordinance, for the path chosen by the applicant.

Amendments to the IECC are as follows:

- **Section C103.2 Information on construction documents:**
 - **A Mechanical COMcheck with all new mechanical equipment listed, signed by a registered engineer, shall be submitted. The equipment listed shall match what is installed and verified at final. If equipment changes, a revised COMcheck submittal is required.**
 - **A Lighting COMcheck for interior lighting and exterior, if applicable, shall be submitted. This must be signed by a registered engineer. Note that track lighting shall be calculated using 30W/lin ft minimum or the wattage limit of the permanently installed current-limiting device. The lighting listed shall match what is installed and verified at final. If the lighting changes, a revised COMcheck submittal is required. This is not applicable for residential units in a mixed-use building.**
 - **Construction documents shall list each mechanical equipment type, capacity output and the efficiency in the equipment schedules, these efficiencies shall be equal to or less than those listed in the tables listed in C403. Both the required efficiency and the efficiency of the equipment shall be listed.**
 - **All fans (supply, exhaust, return, etc.) shall be listed with their applicable horsepower rating and this shall not exceed the fan power limitations per C403.8.1(1). Indicate which option (1 or 2) is to be utilized.**
 - **If applicable, list any commercial refrigerators, freezers and refrigeration per Table C403.11.1 by equipment category, condensing unit configuration, equipment family, rating temp, operating temp, equipment classification and the maximum daily energy consumption (kWh/day) with calculations showing the kWh/day.**
 - **Any service water heating needs to be listed and have the following information (per Table C404.2): equipment type, size category (input), subcategory or rating condition and calculated performance.**
- **Section C301.1: (add) The Town of Basalt shall utilize the Climate Zone of 6B.**
- **Section C302.1 Interior design conditions: (replace) “72F for heating” with “70F for heating”.**
- **Section C403.1.1 Calculation of heating and cooling loads (C403.1.1): (add) The construction documents shall state that the loads have been calculated in accordance with ANSI/ASHRAE/ACCA standard 183 and include all of the design criteria for the Town of Basalt, below.**
 - **Elevation: 6,611**
 - **Inside Temp, Winter: 70**
 - **Inside Temp, Summer: 75**

- Heating, dry bulb: -2
- Cooling, dry bulb: 85
- Cooling, wet bulb: 57
- Heating Degree Days: 7850
- Cooling Degree Days: 182
- Section C403.2.2 Ventilation: (add) Supply ventilation shall meet minimum CFM airflow rates but shall not exceed 120% of required calculated supply.
- Section C408.2.1 Commissioning plan: (add) Any buildings that are 20,000 SF or more shall enter their utility information into the Energy Star Portfolio Manager program and submit this information prior to the final building inspection. This is required for new construction 20,000 SF or more.

**Table 1
Type II Point Thresholds**

Required Threshold by Building Type	Points
NC: Commercial—New construction	71
NC: Commercial—Core and shell	68
NC: Commercial—Hotel and hospitality	71
NC: Commercial—Schools and major childcare	71
NC: Commercial—Healthcare	71
NC: Commercial—Data centers	71
TF: Commercial tenant finish (non-restaurant)	15
TFR: Commercial—Tenant finish (restaurants)	25
Level 1: Commercial—Remodels (Level 1 under the IEBC)	0
Level 2: Commercial—Remodels (Level 2 under the IEBC)	15
Level 3: Commercial—Remodels (Level 3 or change of occupancy under the IEBC or > 2,000 SF)	25

A: Commercial—Additions and detached garages (accessory), greater than 500 SF	25
W: Commercial—Warehouses and distribution centers, primary use	30
MF: Multi-family (apartments or condominiums)	68
H2: Commercial—Remodels, historic landmark buildings (Level 2 under the IEBC)	7
H3: Commercial—Remodels, historic landmark buildings (Level 3 or Change of Occupancy under the IEBC or > 2,000 SF)	15

Notes:

[1] Points in excess of the minimum points may be applied to each subsequent commercial tenant finish.

[2] The abbreviations used in the left column are also used in the SBR commentary prepared by the Town Building Official. “NC” stands for new construction. “TF” stands for tenant finish for non-restaurants. “TFR” stands for tenant finish for restaurants. **3 remodels are classified Level 3 under the IEBC, change of occupancy under the IEBC, or remodels that will disturb more than two thousand (2,000) square feet of conditioned floor area.** “A” stands for additions and detached garages of conditioned building area greater than five hundred (500) square feet. “W” stands for new construction of warehouses and distribution centers. “MF” stands for new construction of multi-family apartments or condominiums. “H2” means remodels at Level 2 under the IECC to historic landmarked buildings designated under Article XVIII of Chapter 16 of the Municipal Code under the IECC. “H3” means remodels to historic landmarked buildings at level 3 under the IEBC or a change of occupancy under the **IEBC** or additions or a historic building greater than two thousand (2,000) square feet.

[3] For specific developments subject to Type II Sustainable Building Regulations which do not fit into a category listed above, the Town Building Official shall determine the appropriate number of points required based on the similarity to the listed developments, the qualification of what is required by the applicant and at what point in the building permit process compliance will be confirmed is provided in this subsection.

(1) Part 1: Site/water conservation.

- a. Part 1.01 Construction activity pollution prevention (CAPP) and Non-Functional Turf Eliminated.

Qualification: Include on construction management plan, and field implement. Limits of disturbance to have sediment fencing, stacked hay bales in swales/drainage ditches, and revegetation matting in any areas outside fencing disturbed by construction. Non-functional turf (i.e., turf at offices, street medians and entrances to housing developments) is not allowed in commercial construction.

Points: REQUIRED.

Confirmation will be at plan review and footing inspection.

- b. Part 1.02 Redevelopment or brownfield redevelopment. Requires deconstruction.

Qualification: Show on site plan location of existing or pre-existing structures. Deconstruction is required for at least twenty-five percent (25%) of existing structure(s) for any reusable/recyclable items for both redevelopment and brownfield. For brownfield redevelopment, show documentation demonstrating previous or existing site contamination and clean-up.

Points: Redevelopment 5 points. Brownfield redevelopment 10 points.

Confirmation will be at plan review and at final for contamination and clean-up as part of the building permit.

- c. Part 1.03 Development density and community connectivity.

Qualification: Demonstrate at plan review that **the project location** satisfies both density and connectivity, **as defined by the most recent version of LEED.**

Points: 5.

Confirmation will be at plan review.

- d. Part 1.04 RFTA bus stop.

Qualification: Development is within one-fourth ($\frac{1}{4}$) mile of a RFTA bus stop. Measurement will be along the most direct pedestrian route with a sidewalk or improved trail.

Points: 1.

Confirmation will be at plan review.

- e. Part 1.05 Proximity to schools.

Qualification: Demonstrate that property is within one-half ($\frac{1}{2}$) mile of schools

Points: 1.

Confirmation will be at plan review.

- f. Part 1.06 Walkability/bikeability: The site/design provides connection to a multi-use path network.

Qualification: Show direct connection to path network on site/vicinity plan that are within one-half ($\frac{1}{2}$) of a mile of a RFTA bus stop. Measurement shall be along the most direct pedestrian with a sidewalk or improved trail.

Points: 2.

Confirmation will be at plan review.

- g. Part 1.07 Bike share facility.

Qualification: Development must be within one-fourth ($\frac{1}{4}$) mile (measurement will be along the most direct bicycle route) of a bike share facility. If the facility is on-site, 3

points will be awarded. If the facility is not on site, up to 3 points may be awarded if the applicant has made a financial contribution.

Points: Within one-fourth ($\frac{1}{4}$) mile, 1 pt. Onsite, 3 pts. Financial contribution, up to 3 pts.

Confirmation will be at plan review and final inspection.

h. Part 1.08 LEED AP on the project team.

Qualification: Individual must be an employee of the Contractor **or the Architect** and hold a current LEED AP Accreditation.

Points: 2.

Confirmation will be ongoing throughout the project.

i. Part 1.09 Fill/excavation transport reduction.

Qualification: Dispose of or store excavation spoils within **five (5) miles** of development. Source fill materials within one (1) mile of development. Trip tickets, logs or visual confirmation is required.

Points: 1.

Confirmation will be at plan review and foundation inspection.

j. Part 1.10 Green vehicles: Preferred parking.

Qualification: Designate five percent (5%) of all parking spaces used by the project as preferred parking for green vehicles. Clearly identify and enforce for sole use by green vehicles. Distribute preferred parking spaces proportionally among various parking sections (e.g. between short term and long term spaces). Green vehicles must achieve a minimum green score of forty-five (45) on the American Council for an Energy Efficient Economy (ACEEE) annual vehicle rating guide.

Points: 2.

Confirmation will be at plan review and the final inspection.

k. Part 1.11 Green vehicles: Charging stations.

Qualification: Provide charging stations **beyond what is mandatory per Town of Basalt Town Code** Type 2 station, 3 pts.; "Fast-charging" station, 5 pts., max at 15. Type 2 stations are 208—240V; "Fast-charging" stations are greater than 240V.

Points: 3 to **18**.

Confirmation will be at plan review and the final inspection.

l. Part 1.12 Covered bicycle racks.

Qualification: Planned and constructed bike storage must be covered, at a minimum, and include rack space or other means of security for at least one (1) bike per ten (10) occupants as defined by the **occupant load of** building code.

Points: 1.

Confirmation will be at plan review and final inspection.

- m. Part 1.13 Employee shower and employee changing rooms.

Qualification: Changing rooms must have lockers and shower facilities for employees in commercial buildings.

Points: 2

Confirmation will be at plan review and final inspection.

- n. Part 1.14 On-site affordable housing unit, live-work mixed use beyond code-required minimum.

Qualification: Show on-site dwelling unit(s) that meet the Town of Basalt Affordable Housing Guidelines for either a deed restricted for sale unit or rental unit, which are beyond the code-required minimum mitigation and beyond any requirement contained in a land use approval ordinance for that development.

Points: 5 per unit; 25 maximum.

Confirmation will be at plan review and final inspection.

- o. Part 1.15 Maximize open space and habitat.

Qualification: Total lot coverage is less than seventy-five percent (75%) of maximum allowable for lot and total surface parking and hardscape area is less than building footprint(s).

Points: 2.

Confirmation will be at plan review and final inspection.

- p. Part 1.16 Stormwater design.

Qualification: One hundred percent (100%) of surface water runoff travels through bioswales, landscaped detention areas, engineered systems (such as the StormTech System) or combination thereof.

Points: 3.

Confirmation will be at plan review and final inspection.

- q. Part 1.17 Diverse native landscaping.

Qualification: Landscaping plan includes ten (10) or more native species over ninety percent (90%) of landscaped area. **This must be confirmed by final building inspection. If less than 10 species are utilized, 90% of the landscaped area must be native.**

Points: 1.

Confirmation will be at plan review and final inspection.

- r. Part 1.18 Water efficient, **fire resistant** and edible landscaping.

Qualification:

- Requirement: Automatic controllers are required for irrigation systems.
- Limited turf: Irrigated turf area must be equal or less than forty percent (40%) of landscaped area, or one thousand (1,000) square feet, whichever is smaller. **Any Turfgrass installed shall be low evapotranspiration (ET), drought tolerant, and require no more than one inch of water every two weeks. Turfgrass shall be prohibited for use in non-active use areas.** Show turf areas and drip-irrigation lines/beds on landscaping plan. Irrigation systems shall be controlled with automatic timer and rain sensors. The Town Building Official may determine whether this standard is applied on a lot by lot basis or whether the common area on a project may be considered in satisfying this standard. The intent is that an entire planned development meets the requirement.
 - **Edible landscaping: A minimum of fifty (50) square feet must be prepared and dedicated for edible landscaping consisting of permanent in-ground planting areas or raised beds. Consideration for wildlife must be taken into account and must be approved by Colorado Parks and Wildlife.**
 - Xeriscaped: Landscaping plan must only show xeriscape plants listed by Colorado Waterwise, or source recognized by the Town Building Official. Landscape plan must meet landscaping minimum standards. Temporary irrigation is permissible during plant establishment period. Landscaping must be planted prior to CO to be eligible.
 - **FireWise: Creating a defensible space around the residence is crucial in surviving wildfires. Utilizing fire resistant landscaping methods as outlined on Colorado State University’s Extension website, produced in cooperation with the Colorado State Forest Service and per the References noted at the bottom of the website will not only reduce water use, but it will increase the residence’s ability to survive a wildfire.**

Points: limited turf or edible landscaping: 2 pts., Xeriscaped or FireWise landscaping: 4 pts.

Confirmation: will be at plan review and final inspection. **If a final building inspection is done and the landscaping is not complete, these points cannot be acquired.**

s. Part 1.19 Interior water use reduction.

Qualification: Demonstrate all water use reductions on interior fixtures, including but not limited to: toilets, showers, sinks, faucets, dishwashers, clothes washers and urinals. Baselines are based on average occupant usage pursuant to the current EPA WaterSense requirements.

Points: **75% of plumbing fixtures WaterSense-labeled, 3 pts.; 100% of plumbing fixtures WaterSense-labeled, 4 pts.**

Confirmation will be at plan review and final inspection.

t. Part 1.20 Heat island reduction.

Qualification: Shade greater than seventy-five percent (75%) of parking **and** use solar-reflective building materials on one hundred percent (100%) of roof or implement a green roof for fifty percent (50%) or more of the roof.

Points: 2 pts max.

Confirmation will be at plan review and final inspection.

u. Part 1.21 Greywater Use for Irrigation

Qualification: Install a 3-way valve that separates the greywater fixtures (bathroom sinks, showers, tubs and washing machines only) from the sewer/septic fixtures and diverts this water to the landscaping OR plumb the sewer and graywater separately.

Points: 6.

Confirmation will be at plan review and final plumbing inspection.

(2) Part 2.0: Recycling and reuse.

a. Part 2.01 Storage and collection of recyclables/compost in design.

Benefit: Provides for convenient recycling and composting.

Qualification: Show on construction plans areas for storage of recycling and compostable collection containers next to trash container(s). Adequate space for a cardboard two-yard minimum container, and totes for co-mingled and newspaper/mixed paper required. Area must be dedicated and accessible to haulers.

Points required.

Confirmation will be at plan review and final inspection.

b. Part 2.01a Composting program for restaurants.

Qualification: Confirmation of a sign-up with a local composting hauler will be required prior to final inspection. The confirmation must include a minimum commitment for one year of service.

Points required.

Confirmation will be at plan review and final inspection.

c. Part 2.02 Construction waste recycling.

Qualification: Provide labeled containers during construction for recycling cardboard, wood waste, and/or metal scrap.

Points: 1 per material type; 3 maximum.

Confirmation: Labeled containers clean of trash with evidence of use must be in place during all inspections.

d. Part 2.03 Reclaimed and/or recycled content materials.

Qualification: Use of construction materials that are either reclaimed from another structure, and/or any materials with recycled-content in them qualify. Materials that are purchased from a reclaimed materials distributor, deconstructed by the owner/applicant from another structure, or that are purchased from a used building materials exchange all qualify as reclaimed materials (must provide documentation). Some common recycled-content materials include steel studs, composite decking, recycled-content faux shake/slate roofing, cellulose or shredded cotton batt insulation, recycled-content carpets, countertops, recycled-content tile, etc. Provide material info onsite; field inspected. More than fifty percent (50%) of the material type in place must be reclaimed, recycled and/or recycled-content; recycled content minimum for material shall be fifty percent (50%) post-consumer or seventy-five percent (75%) pre-consumer.

Points: 2 per material type; 6 maximum.

Confirmation: Material information/documentation must be on the job site with a field set of plans for inspection.

e. Part 2.04 Use of beetle kill pine.

Qualification: Structural use as dimensional framing material, or as cross laminated timber (CLT); and/or nonstructural uses such as siding, flooring, trim, etc. Material must be used for over fifty percent (50%) of the total construction element.

Points: 2 for structural; 2 for nonstructural; 4 maximum.

Confirmation will be at framing and/or final inspection.

(3) Part 3.0: Framing and materials.

a. Part 3.01 Insulated Concrete Forms (ICFs) for foundation.

Qualification: ICFs shown on structural drawings and used for over seventy-five percent (75%) of the foundation.

Points: 5.

Confirmation will be at plan review and foundation inspection.

b. **Part 3.02 Alternative Cementitious Materials in Cement used in Concrete**

Qualification: Provide letter from the batch plant that the cement used in the project's concrete mix utilized "alternative cementitious materials (ACMs)".

Points: 4.

Confirmation will be at foundation inspection.

c. Part 3.02 3 Efficient framing techniques.

Qualification: Design and construct using advanced framing techniques consistent with efficiency framing techniques **and locating windows on framing layout**. Some methods include twenty-four-inch OC framing, two-stud corners, insulated headers on exterior walls and no headers in non-load bearing walls. **Two (2) points for each technique utilized, 4 points maximum.**

Points: 2 to 4.

Confirmation will be at plan review and the framing inspection.

- d. Part 3.04 FSC or SFI certified materials, engineered lumber.

Qualification: FSC (Forest Stewardship Council) or SFI (Sustainable Forestry Initiative) stamped certification on material(s) required. Use of FSC or SFI materials, engineered lumber, pre-fab trusses and/or steel studs must be used in over fifty percent (50%) of each construction element.

Points: 2 per material type, 7 maximum.

Confirmation will be at plan review and the framing inspection.

- e. Part 3.05 Materials manufactured within Colorado and/or rapidly renewable materials.

Qualification: Show documentation for any materials used that were manufactured within Colorado, or that consist of rapidly renewable materials (naturally reproducing within fifteen (15) years). Material type must be used in over fifty percent (50%) of the building component. **Concrete does not qualify.**

Points: 2 per material type, 6 maximum.

Confirmation: Plan review and framing inspection.

- f. Part 3.06 Structural insulated panels (SIPs).

Qualification: Must be used for > seventy-five percent (75%) of exterior walls.

Points: 10.

Confirmation will be at plan review and framing inspection.

- (4) Part 4 Energy.

- a. **Part 4.01 Eliminate Use of Foams with a High GWP (Global Warming Potential) Blowing Agents**

Qualification: Provide product specs at insulation inspection. Insulating foams containing HFC-245fa as a blowing agent in spray foam and HFC-134a in XPS board is not permitted. HFO blowing agent is permitted.

Points: REQUIRED.

Confirmation will be at insulation inspection.

- b. **Part 4.02 Continuous air barrier and testing.**

Qualification: A continuous air barrier is required around the entire thermal envelope and must be **clearly delineated** ~~shown~~ on construction drawings **using a red and/or bolded line. Any exterior areas exposed during remodels must also air seal before drywall is re-applied. Remodels subject to SBRs and tenant finishes are required to have an Energy Assessment and baseline blower door as well as a final blower door, exceeding the baseline by a minimum of 15%.**

Within multifamily developments there shall be a minimum of 20% of the total units tested, including at least one of each unit type, and shall involve an approximate equal number on each floor level. Each unit shall have a maximum leakage rate of 0.30 CFM/SF at 50 Pascals. Projects other than Group R & I shall be tested per C402.5.3 (0.40 CFM/SF at 75 Pascals).

Points: REQUIRED.

Confirmation will be at plan review.

c. Part **4.03** Fenestration.

Qualification: Gross window to wall area cannot exceed thirty percent (30%) for vertical glazing and three percent (3%) for skylights **within the building's thermal envelope. In a tenant finish or remodel, the exterior walls within the thermal envelope will count toward this calculation, i.e. fire separation walls are not included. This is applicable to projects complying via the Prescriptive Route.**

Points: REQUIRED.

Confirmation will be at plan review.

d. Part **4.04** Vestibules.

Qualification: Where entering a tempered space larger than three thousand (3,000) SF, a vestibule is required. **A vestibule is not required if revolving doors or other exceptions listed in the code are utilized.**

Points: REQUIRED.

Confirmation will be a plan review.

e. Part 4.05 Exterior insulation—Required if using steel framing.

Qualification: Exterior insulation must be installed if steel framing is utilized. **If continuous insulation cannot be installed on the exterior, it needs to be installed on the interior, i.e. framing an additional wall on the interior in order to achieve a thermal break.**

Points: REQUIRED.

Confirmation will be at plan review and insulation inspection.

f. Part **4.06** Window upgrades to existing buildings.

Qualification: For any remodels and additions subject to SBR and tenant finishes: **if the existing windows are single-pane, a low-e storm window or window insert needs to be installed over all of the existing single-pane windows.**

Points: REQUIRED.

Confirmation will be at plan review and framing inspection.

g. Part **4.07** Slab insulation.

Qualification: Provide location of insulation of slab in construction drawings: **Provide detail to account for thermal bridging at perimeter. For continuous R-10 minimum insulation, 2 points; for continuous R-15 minimum insulation, 3 points.**

Points: **R10, 2 pts.; R15, 4 pts.**

Confirmation will be prior to slab pour.

Points: 4 pts. maximum.

h. Part 4.08 HVAC equipment performance.

Qualification: Increased efficiency above what is listed in current IECC Code (Section C403). If both heating and cooling are installed, both systems must meet the efficiency increases.

Points: 2 pts per ten percent (10%) increase; up to 10 pts.

Confirmation will be at plan review and mechanical rough-in.

i. Part 4.09 No recessed lights within the building envelope.

Qualification: Avoid recessed light fixtures in the ceiling of the building envelope.

Points: 2.

Confirmation will be at plan review and at rough-in.

j. **Part 4.10 No natural gas line or propane on site. All heating equipment shall be heat pump or other high efficiency system.**

Qualification: Gas line shall not be tapped, nor shall any gas line be run to the building or building surrounding, i.e. for a fire pit.

Points: 12

Confirmation will be at plan review and foundation inspection.

k. **Part 4.11 Cold climate air-source heat pump to cover 100% of the cooling and heating load - HSPF equal to or > 10 and SEER equal to or > 16 minimum efficiency requirements per AHRI Directory.**

Qualification: Heat pumps to cover 100% of the heating and cooling loads. All condensate lines must not be run to the exterior of the building.

Points: 15

Confirmation will be at plan review and final.

l. Part 4.12 Geexchange system. **Ground-source heat pump to cover 100% of the heating and cooling load - COP 3.5 minimum efficiency requirement.**

Qualification: Must be designed and constructed to serve the entire building

Points: 20.

Confirmation will be at plan review and rough-in.

- m. Part 4.13 Tankless on-demand water heater(s), **hybrid / heat pump hot water heater, side-arm or combined space and water heating appliance.**

Qualification: Gas or electric tankless models qualify and must meet over **seventy five percent (75%)** of total hot water needs. A combined (space and water heating) appliance or a condensing water heater **that is modulating with** a thermal efficiency rating above current IECC minimums **will also** qualify.

Points: 1 to 3 (tankless systems, **hybrid / heat pump hot water heaters and combined space and water heating** receives 3 points. Side-arm boilers qualify for 1 point as part of a modulating condensing boiler with AFUE efficiency above the current IECC minimum.)

Confirmation will be at plan review and rough-in.

- n. Part 4.14 No mechanical air conditioning or evaporative cooling only.

Qualification: HVAC design must specify evaporative cooling. Evaporative cooling is defined as cooling which relies only on evaporation of water for its cooling needs.

Points: 2 for evaporative cooling; 4 for other less energy consumptive alternatives such as passive cooling or ceiling fans.

Confirmation will be at final inspection.

- o. Part 4.15 HVAC economizer system.

Qualification: Specify and install an economizer system for over fifty percent (50%) of heated area of the structure.

Points: 1 for fifty percent (50%) of heated area, 2 for one hundred percent (100%) of heated area.

Confirmation will be at plan review and final inspection.

- p. Part 4.16 Radiant floor heating.

Qualification: Hydronic in-floor heating in over fifty percent (50%) of the heated area of the structure. **Boiler must be modulating.**

Points: 15.

Confirmation will be at plan review and final inspection.

- q. Part 4.17 Air-to-air heat exchanger.

Qualification: Majority of total mechanical ventilation must go through a heat exchanger (**either an HRV or ERV**) for points.

Points: 2.

Confirmation will be at plan review and final inspection.

- r. Part 4.18 High performance windows.

Qualification: Specify U-values for all glazing designed and installed.

Points: 1—8 (1 point for each U-.01 below IECC maximum).

Confirmation will be at plan review and insulation inspection.

s. Part 4.19 Roof/ceiling insulation.

Qualification: One point awarded for each manufacturer-rated R-value of insulation, above current IECC minimum, installed in the roof assembly. For structures/roof assemblies with multiple different R-values, a weighted average is used.

Points: 1 to 8

Confirmation will be at plan review and insulation inspection.

t. Part 4.20 Wall insulation.

Qualification: One (1) point awarded for each manufacturer-rated R-value of insulation, above current IECC minimum, installed in the exterior wall assembly. For multiple wall types with different R-values, a weighted average is used.

Points: 1 to 8.

Confirmation will be at plan review and insulation inspection.

u. Part 4.21 Crawl space/basement foundation wall insulation.

Qualification: Insulate crawl space or basement foundation walls (either inside or outside) beyond current IECC code minimums.

Points: 0.5 for each manufacturer-rated R-value of insulation, above IECC minimum; 1 additional point for exterior applied insulation, 3 maximum.

Confirmation will be at plan review and insulation inspection.

v. Part 4.22 Blown or sprayed insulation.

Qualification: Blown-in, or minimum 2.0 pcf density foam, insulation specified and installed in attics/ceilings, walls, and basements/crawl spaces qualifies. **Note that insulating foams containing HFC-245fa as a blowing agent in spray foam and HFC-134a in XPS board is not permitted. HFO blowing agent is permitted.**

Points: 1—4 (1 per quantity level). For example, if eighty percent (80%) of the insulated area of a structure is blown-in, then quantity level 4 (76—100%) or 4 points would be given.

Confirmation will be at plan review and insulation inspection.

w. Part 4.23 Restaurant equipment efficiency: Energy Star appliances.

Qualification: Appliances must be Energy Star certified.

Points: 2 pts. per appliance, 10 pts. maximum.

Confirmation will be at plan review and final inspection.

x. Part 4.24 Restaurant equipment reuse.

Qualification: Equipment must be less than three (3) years old and/or refurbished **and show that it meets current energy code requirements**. Appliance must show that it has been serviced.

Points: 2 pts. per appliance, 6 pts. maximum.

Confirmation will be at plan review and final inspection.

y. Part 4.25 Insulating window shades.

Qualification: Seventy-five percent (75%) or more of total windows must have insulating window coverings installed **and have a minimum R3 to qualify. Common options include duet/cellular shades, or quilted shades.**

Points: 2.

Confirmation will be at plan review and final inspection.

(5) Part 5: Renewable energy and beneficial electrification.

a. **Part 5.01 Building electrification is mandatory. Buildings shall be “battery-ready” (with *electrical service reserved space*), “electric-ready” with “electrification-ready” circuits, include the required amount of *EV Supply Equipment* spaces per requirements below, as well as be “solar-ready” on a minimum of 40% of the total roof area, with mandatory solar per Part 5.02. A electrical load calculation from a certified electrician or approved third party is required. This is applicable to new construction, additions 500 SF and greater and Level 3 remodels, as defined above.**

Qualification: Provide a calculated load form that is submitted to the electric utility that has appropriate breaker and panel sizing for future conversion to all electric. Also document the following on the Construction Documents:

- **Electrical Energy Storage System / Battery Ready Area: The location and layout diagram of the electrical energy storage system ready area shall be indicated on the construction documents and is exempt from FAR calculations. Each building shall be required to have an Electrical Energy Storage System Ready area. The floor area of the electrical energy storage ready area shall not be less than 2 feet (610 mm) in one dimension, 4 feet (1219 mm) in another dimension, 18” out from the wall, and located in accordance with Section 1206.2.8 of the International Fire Code and Section 110.26 of the NFPA 70 and near the main electrical panel. The main electrical service panel shall have a reserved space to allow installation of a two-pole circuit breaker for future electrical energy storage system installation This space shall be labeled “For Future Electric Storage.”**
 - **Exception: Where an onsite electrical system storage system is already installed.**
- **Electric-ready: All systems shall be pre-wired for transition to electric. This includes the water heater, clothes dryer, stove, and HVAC system, with adequate panel capacity. A dedicated minimum 125-volt, 20-amp electrical receptacle that is connected to the electric panel with a 120/240 volt 3**

conductor, 10 AWG copper branch circuit, shall be provided within 3 feet from each gas or propane water heater, clothes dryer, stove and HVAC system, accessible with no obstructions. A single pole circuit breaker space must be reserved in the electrical panel adjacent to each circuit breaker for the branch circuit and labeled with the words "FUTURE 240V USE."

- **Electrical service reserved space:** The main electrical service panel shall have a reserved space to allow installation of a two-pole circuit breaker for future electrical energy storage system installation. This space shall be labeled "For Future Electric Storage". The reserved spaces shall be positioned at the end of the panel that is opposite from the panel supply conductor connection. Any electrical energy storage system that is installed shall meet all requirements of the IFC, Section 1207.
- **Electric Vehicle Supply Equipment (EVSE) Installed Space:** A designated parking space with the apparatus installed specifically for the purpose of transferring energy between the premises wiring and the Electric Vehicle.
 - If the off-street parking requirement is between 1-9 parking spaces, one (1) EVSE Ready Outlet space is required.
 - If the requirement is between 10-19 parking spaces, one (1) Level 2 EV charging station shall be installed and one (1) EVSE Ready Outlet space.
 - If the requirement is 20 parking spaces or more, one (1) Level 2 EV charging station shall be required for every 20 spaces and one (1) EVSE Ready Outlet per 20 spaces.
- **Solar-ready:** On the construction documents, show proposed location (within +/- 45 degrees of true south) of solar (and square footage) on the roof and all mechanical / plumbing penetrations that will go through the roof. Also identify the orientation (Azimuth) and inclination of the proposed array.

Points: REQUIRED.

Confirmation will be at plan review and rough-in inspections.

- b. Part 5.02 Onsite renewable energy.

Qualification: Twenty-five percent (25%) of the annual energy use (15% if building is all-electric) is required to be installed, and a minimum 40% of the roof area shall be dedicated for solar designated a solar-ready zone. Any Level 2 and 3 Alterations are required to get an Energy Assessment. Level 3 Alterations are required to provide renewables at 2.0 watts per SF (1.5 watts per SF if all-electric) for the amount of conditioned floor area of the commercial unit being remodeled and meet electric ready requirements of code. Provide calculations demonstrating any onsite renewable energy systems as a function of total annual energy use offset for that energy source (total electricity or total gas). A collateral dead load of not less than 5 pounds per square foot (5 psf) (24.41kg/m²) shall be included in the gravity and lateral design calculations for the solar-ready zone as calculated by the Town of Basalt REMP Calculation Spreadsheet. This renewable energy is in addition to any REMP requirements, if applicable.

Exceptions and options are below:

(i) Shading: Buildings that do not have access to solar energy, as verified by a third party, approved by the Town Building Official, can provide the renewables offsite by purchasing renewable energy via a method approved by the Town.

(ii) Fee in lieu at 200% (twice as much) penalty of required renewables to be calculated per Section 18-14.

Points: REQUIRED for **twenty-five percent (25%) of the annual energy use (15% if building is all-electric). For core and shell buildings, rough-in for solar (which includes a metal conduit for the DC wire running from the array to the inverter and from inverter to electrical service panel is required; install a dedicated circuit breaker in the electrical service panel) and 40% of the roof area for solar is required.**

Confirmation will be at plan review and final inspection.

c. Part 5.03 Future solar.

Qualification: Provide a chase from the mechanical room to the roof. Space must be provided on the roof and in the mechanical room. **A minimum-40% of the roof area shall be dedicated to solar panels and there must be adequate space in the mechanical room for additional inverters and battery storage.**

Points: REQUIRED.

Confirmation will be at plan review and final inspection.

(6) Part 6. Indoor air quality.

a. Part 6.01 Mold prevention: Moisture management strategy.

Qualification: Submit drawings detailing the thermal envelope and showing how the walls and roof will be able to dry. **Buildings with continuous insulation will need to incorporate a Type II or a smart vapor retarder.** For remodels, the source of mold must be identified and mitigated.

Points: REQUIRED.

Confirmation will be at plan review and insulation inspection.

b. Part 6.02 Fuel burning appliances.

Qualification: Where open combustion air ducts provide combustion air to open combustion space conditioning fuel-burning appliances, the appliances and their combustion air openings must be outside the thermal envelope or enclosed in a room isolated from inside the thermal envelope.

Points: REQUIRED.

Confirmation will be at plan review and insulation inspection.

c. Part 6.03 Radon mitigation system.

Qualification: Install a passive radon mitigation system that eliminates potential for radon or other soil gasses from entering habitable areas of the structure. **A fan shall be added to the radon system if radon test indicates that levels are over EPA's 4 pCi/L threshold. A radon test must be submitted prior to building final.**

Points: REQUIRED.

Confirmation will be at framing and final inspection.

d. Part 6.04 Indoor chemical and pollutant control.

Qualification: Any onsite hazardous material **as defined by the IBC** storage must be air-tight; provided with an exhaust fan; and must provide spill/leakage containment. Also, install a minimum four-by-four-foot grated area with void below for all major entryways that reduces potential for dirt and other pollutants from entering the structure. Ventilation method (exhaust fan or negative pressure) must be provided at plan review.

Points: REQUIRED.

Confirmation will be at plan review and final inspection.

e. Part 6.05 Construction indoor air quality (IAQ) plan.

Qualification: Provide and implement plan **which includes sealing all registers throughout construction and cleaning prior to final.**

Points: 1.

Confirmation: Is ongoing; It is important to remember that IAQ management is not a one-time compliance event that can be checked off a list—it must be an ongoing effort for the duration of the construction process.

f. Part 6.06 High efficiency filters in HVAC.

Qualification: Specify and install **filter with a** Minimum Efficiency Reporting Value (MERV) eight (8) or higher filter that effectively filters one hundred percent (100%) of HVAC system. The higher the MERV number, the more efficient the filter is at removing particles.

Points: 1.

Confirmation will be at plan review and final inspection.

g. Part 6.07 Low- or non-toxic floor coverings.

Qualification: Materials shall be demonstrated to be below EPA thresholds for low toxicity. In general, most tile, wood, and natural carpets meet low-toxic standards. For other coverings, provide documentation demonstrating compliance, **including materials holding a FloorScore a/o Greenguard certification.**

Points: 1—4 (1 point per quantity level) Quantity level is determined by the percentage of total floor area meeting the above criteria. For example, if eighty

percent (80%) of the total flooring was non-toxic, then quantity level 4 (76—100%) would apply, so 4 points would be given.

Confirmation will be at plan review and final inspection.

h. Part 6.08 Daylighting.

Qualification: Bring daylight to occupied areas of the building without hindering tasks.

Points: 4 maximum, 1 **point** per each twenty-five percent (25%) of occupied area to which daylight is provided.

Confirmation will be at plan review and final inspection.

i. Part 6.09 Quality views.

Qualification: Seventy-five percent (75%) of occupied spaces have a direct line of sight to the outdoor environment.

Points: 1.

Confirmation will be at plan review and final inspections.

- (7) Part 7: Innovation points. Innovative product use and/or design points will be given points on a case-by-case basis. The item must specifically meet the intent of the SBR guidelines as stated in Section 18-23 and points will be scaled as the item would apply to similar comparable items in this code part.

Note: The Municipal Code currently shows Secs. 18-4 – 18-10 as Reserved. The proposed amendments in this section include the addition of Sec. 18-4 – Fees to the Municipal Code and other additional language, shown in **BOLD.**

Exhibit D

Sec. 18-14. - Fees.

Code Section	Subject	Fee
Section 23 (e) 2	Application to SBR Review Committee	\$300 plus Applicant shall pay for any fees charged to the Town, including legal fees, or fees by outside consultants determined necessary for the review by the SBR Committee, recording costs, or other actual out-of-pocket costs incurred by the Town. Additionally, Applicant shall pay an administrative fee equal to 15% of total costs.
Section 18-24 (c) (2 3)	Type I - Zero Energy Ready Building Permit	Rebate of 25% of the building permit fee up to a maximum of \$5,000
Section 18-24 (c)(4) through (6)	Type I - LEED for Homes Gold Certification or Better / Passive House / Living Building	Rebate of 25% of the building permit fee up to a maximum of \$5,000
Section 18-25 (c)(4) through (5)	Type II - LEED Gold or Better / Living Building	Rebate of 25% of the building permit fee up to a maximum of \$5,000

(a) Permit fees. On buildings, structures, gas, mechanical and plumbing systems, **and exterior energy** uses requiring a permit, a fee for each permit, in an amount approved by the Town Council pursuant to Section 2-381, et seq. of this Code shall be paid as required.

(b) Plan review fee. When construction documents are submitted for a building permit, a plan review fee shall be paid. Said plan review fee shall be sixty-five percent (65%) of the building permit fee determined by the Building Official.

(c) Energy and sustainability building regulations code review fee. The Town shall assess a fee of a minimum of ten percent (10%) of the associated building permit fee for review and compliance with the Town's energy code and sustainable building regulations as further described in the Town's fee schedule.

(d) REMP (Renewable Energy Mitigation Program) Fees. Exterior energy uses shall be calculated per the Town of Basalt REMP Calculation Spreadsheet.

Calculations of the REMP fee is made pursuant to the following schedule: (Note: Building permit applicants for construction subject to Type I or Type II Sustainable Building Regulations that do not propose to install a renewable energy system on-site or off-site to mitigate exterior energy use as required above must pay one hundred percent (100%) of the required fee as **calculated by the Basalt REMP Calculation Spreadsheet.**

<i>Energy Use</i>	<i>BTUs per sq. ft. per year</i>	<i>"Free allowed square footage"</i>	<i>Fee per sq. ft. for 20 years*</i>
Snowmelt	163,600	0	See Town's REMP Calculation Spreadsheet
Electric Heat Tape	1.563 kwh/W/yr	1000 watts	See Town's REMP Calculation Spreadsheet
Exterior Heaters	Based on unit model and runtime	0	See Town's REMP Calculation Spreadsheet
Exterior Fireplaces	Based on unit model and runtime	0	See Town's REMP Calculation Spreadsheet
Small Spa	430,000	64	See Town's REMP Calculation Spreadsheet
Summer Pool	29,000	0	See Town's REMP Calculation Spreadsheet
Winter Pool	332,000	0	See Town's REMP Calculation Spreadsheet

Heated Garage	19,500	0	See Town's REMP Calculation Spreadsheet
* These fees must be adjusted for efficiency.			

Additional Fees for not meeting IECC / SBR Requirements per Section 18-23

SBR Checklist

- **Type I Only – Fee for shortfall in one of each of the subcategories = square footage of project x number of points short of threshold x \$0.05.**
- **Type I and II - For projects which do not satisfy the overall minimum number of points = square footage of project x number of points short of threshold x \$0.15.**
- **Blower Door: Not meeting blower door requirement: a fee of \$1.00 x the conditioned floor area x the ACH50 (cfm/SF x 10 for Type II) short, rounded to the tenth decimal place, shall be issued and paid for prior to final inspection. If a blower door test is not done prior to a remodel and the final blower door test is greater than 3ACH50 (0.40 cfm/SF for Type II, 0.30 cf/SF for Type II Multifamily), a fee of \$0.10 x the conditioned floor area x the ACH50 (cfm/SF x 10 for Type II) short, rounded to the tenth decimal place, shall be issued and paid for prior to final inspection. For commercial buildings, the fine shall be \$800 per 0.01 cfm over the maximum threshold (0.40 cfm/SF at 75 Pascals; 0.30 cfm/SF at 50 Pascals for residential units).**
- **Duct Leakage: Not meeting duct leakage testing requirement: a fee of \$0.40 x the conditioned floor area. x by the CFM/100 SF short, rounded to the tenth decimal place, shall be calculated by the Town and paid by the Applicant prior to final inspection.**
- **Manual J & S: If equipment is sized greater than 115% calculated cooling load and 140% calculated heating load in the Manual J and is NOT multi-stage or variable speed / modulating, or was not approved by the Building Official, a fee of \$0.85 times the conditioned floor area shall be issued and paid for prior to the final inspection.**
- **HERS: If a project does not meet the ~~minimum~~ maximum HERS score (depending on if the project is all-electric or dual fuel), a fee of \$0.25 multiplied by the conditioned floor area, multiplied by the number of points short, shall be paid prior to final.**
- **REScheck Compliance: If a project chooses the REScheck option and does not meet the 5% greater than code calculation at final, a fee of \$0.25 multiplied by the**

square footage, multiplied by the number of percentage points short, shall be paid prior to final.

- **REMP for Heated Garages** - If a garage is heated with a heater that is on a timer, but the assemblies are not IECC minimums a/o the garage door is not R12, a fee of \$8/sf shall be issued.