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SCBA comments regarding the Summit Sustainable Building Code January 10th Draft

General SCBA comments and suggestions:

1. Many SCBA members want expanded real-life project examples as noted in SCBA letter 2-18-08.
2. A number of SCBA members noted that the SSBC draft is overly complicated and should be "simplified by magnitudes."
3. A number of SCBA members noted concern that remodeling projects are discouraged by the SSBC. Suggest real-life sample projects be analyzed.
4. Provide evidence that multi-family projects are equally challenged by the SSBC. Multi-family projects to include common conditioned space, no exceptions.
5. An SCBA member noted concern of applicability to large properties over two acres, the ranching community, and out-buildings.
6. Include a specific description of assistance municipality will provide to an applicant in the event a sustainable building code measure is opposed by a homeowner's association as noted in SCBA letter 2-18-08.
7. The composition of the Technical Advisory Panel (TAP) should be considered carefully for future years and decades. Obviously, this can affect the evolution of the code over time. At least one SCBA member in good standing with minimum five years continuous Summit County residential construction experience should be on the panel. The SCBA strongly recommends that there be one paid position on the TAP, or that works for the TAP. This position would consider all points of the SSBC neutrally and facilitate research on those points proposed for inclusion or included in the SSBC. The TAP should also have funding available to hire professional, unbiased research.
8. Correct continuity errors and numbering system between the checklist, the summary, the ordinance, and the resource guide.
9. Include specific descriptions of how all pro-rated point values are measured.

Specific SCBA comments and suggestions:

2.0 Mandatory Measures

- 2.1 Insulation – It should be made clear that the required R-values are a cumulative result of the individual parts of the system. The resource guide should include the R-value of some typical materials. Furthermore, this section refers only to the quality of the products included in the assembly, and not the performance of the assembly as a whole. Suggest the TAP research a better way to evaluate performance of the assembly.

- 2.2 Windows and Glazed Doors – How are window packages computed? Is it an average total U-value or the proportion of U-value per sf vs. total square footage of glazing? Some consideration should also be given to the entire window system, such as in a commercial “storefront” type of glass installation we are seeing more and more in some of the more contemporary designs. The aluminum storefront channel is hollow and not insulated.
 - 2.3 Exterior Opaque Doors – See 2.2 and define “opaque”. This section should be revised to allow exterior doors in ALL locations that do not have a U rating. Wood doors do not come with U-value ratings. We need another standard for measurement. In most cases, an exterior door is manufactured by one company and set in a jamb by another. In some cases, both the door and the jamb are manufactured by a small company. Many companies that make great doors with insulated glass, weather-stripping, and adjustable thresholds do not have the resources for expensive U-value testing. U-value testing for exterior door units is seldom and found only with major manufacturers.
 - 2.4 No comment
 - 2.5 No comment
 - 2.6 Owners Manuals – Include acknowledgement that some operation and maintenance functions for systems should only be performed by a professional.
- 3.0 Secondary Measures
- 3.1 Building Size – It has been noted by many that these benchmarks seem low. Real-life examples will help show whether these numbers are truly feasible. Additionally, there should be a separate checklist created for multi-family for calculating required points. Clear description how remodel / addition projects are handled also needs to be included. Also, some builders and owners will have a rude awakening after this code becomes adopted if they haven’t been thinking about this stuff in the design process. What if their design process has already begun? Furthermore, there are really no size limitations for Section 3.20 on the Checklist (Other Building Certification Programs) when a home is certified Built Green. Should Built Green be an option as an alternative program if this size limitation is of primary interest in this new sustainable building code?
 - 3.2 Renewable or Engineered Lumber – Method for calculating these percentages needs to be described fully. Log homes and timber-frame structures, particularly those that have minimal hardware and predominantly wood-to-wood connections that are inherently rot-resistant, have an **extremely** long life and will no doubt be dis-assembled and re-assembled in the future. These best-use techniques should be considered “renewable” even if the original materials are not FSC or SFI certified. Points for OVE framing should be included in this section also, as it is quite important to R-values of wall systems and resource conservation, including how these methods are verified, calculated, inspected, etc. Regarding Engineered Lumber, one member has suggested that these products contribute to mold problems. Recommend that the TAP investigate some studies, and if true, reconsider engineered lumber as a part of this code.
 - 3.3 Day Lighting – Toilet compartments should be exempted. Furthermore, better definition is required for this section as many homes today have multiple rooms (closets, dressing areas, toilet areas, laundry areas, etc.) within a bathroom.
 - 3.4 Air Stratification - Are offset points given for each fan or for each area? What about more than one fan for a large area? More definition is needed.

- 3.5 Window Insulation – This requirement should be moved from secondary measures to offset points, and be reduced in its point value weight. The requirement contradicts day lighting section 3.3. Window blind options that have a rated R-value are scarce and likely will not be installed by builders as they are subject to the owner’s discretion.
- 3.6 Recycling – Needs definition for number or canisters. Are offset points given for recycling in one or both areas (kitchen and garage?)
- 3.7 Energy Star Appliances – This section is not clear on point value, and not clear on whether appliances beyond the three listed are considered.
- 3.8 Energy Efficient Controls – is this in or out? If it is in, is this per thermostat?
- 4.0 Intensive Energy Use Amenities
 - 4.1 Decorative Gas Fireplaces – Pro-rate by BTU.
 - 4.2 Hot Tubs – It has been suggested that energy efficient hot tub packages should be exempted. Some are certainly better than others.
 - 4.3 Snowmelt – Manually controlled systems offered as a convenience are used far less often than automatically controlled systems required for driveways. There should be a delineation. Once enough examples have been proven with this code, the TAP should look at the point value of this. It has been suggested that it may be too forgiving, and that this section should discourage people from heating outside surfaces except for very small public safety areas. Architects need to design around this more in the future.
 - 4.4 Air conditioning – Cooling equipment for wine rooms or other small specialty uses should be exempted, but once again it has been suggested that this point value may be too forgiving. Once enough examples have been proven with this code, the TAP should look at the point value of this. Additionally, take the inference to global warming “(for a little while at least)” out of this section. Scrub the entire code for other similar wording and remove it all, if we want this code to be taken seriously. By the way, the current technically correct description for this type of thing (warming of certain areas on the planet) is “Climate Change”, not Global Warming.
 - 4.5 Heat Cable – It has been suggested that the TAP consider the use of roof heat cable. Heat cable uses a large amount of electricity. Again, architects need to pay more attention to roofs that drain onto walking surfaces below and builders need to give more attention to how we construct and insulate our roof systems to minimize ice dams.
- 5.0 Sustainable Building Menu (or is it 3.0 per the spreadsheet? All sections numbering system should jive between all documents. This list now follows the spreadsheet, sort of...)
 - 3.1 Simple Footprint – Define corner...outside, inside, less or more than 90 degrees?
 - 3.2 Land Use – These values should be prorated and again, “disturbance envelope” and “building envelope” definitions need to be revisited to allow for storage uses, as most construction guidelines in subdivisions will make the Land Use portion of this section impossible.
 - 3.3 Deconstruction Recycling – 1 pt per 25% of what? Needs definition. Where is a local non profit reuse center? Driving recycled items to Denver doesn’t make sense.
 - 3.4 Construction Recycling - 1 pt per 25% of what? Needs definition. Also, again, “disturbance envelope” and “building envelope” definitions need to be revisited to

- allow for storage uses. Also, check facts on recycling costs. Isn't recycled wood charged at \$15 per ton at the landfill?
- 3.5 Passive Solar – Is the unconditioned garage 1 pt or 2 pts and should it be in this section? Where is that in the spreadsheet and resource guide? Also, how many square feet of roof area designated for future solar gains you 2 points here? The section where this item is included needs to be straightened out between the resource guide, spreadsheet and summary. Some more thought needs to be given to square footage, pitch, exposure with trees and mountains, and feasibility of actually installing panels in the future. Broken-up or odd shaped roof areas will not promote efficient solar panel installation in the future. Most solar companies can provide a percentage estimate of optimal orientation for evaluating whether a workable design is possible and worth roughing-in for.
- 3.6 Building Envelope - How will compliance be inspected and when for the Building Envelope portion of this section, especially those items after drywall? The list of higher R-values should be in the same order and format as in section 2.1 for easier readability, and why isn't this in the spreadsheet? Energy *heels* on trusses are considered those which do not compress the insulation over the outside wall and provide ventilation space above: more like 14" for R-38 roof insulation. Other techniques are used for rafters, such as insulation baffles, which should be spelled-out and given point value. For lower U-values on windows (not doors!), this should be pro-rated points and be included in the spreadsheet. For insulated headers, is it 80% of the total linear footage of headers? Recommend the TAP look at a few other options on crawl spaces that are "semi-conditioned" such as non-insulated, tuned exhaust-only ventilated spaces.
- 3.7 Mechanical Systems – Active Solar Space Heating should be pro-rated as the other systems are. Shouldn't the comment in the resource guide regarding tankless hot water heaters be included where they are mentioned in section 1? It doesn't seem to belong on page 16. Domestic hot water recirculation pumps on a timer should be given points either here or under water efficiency. This section needs to be expanded or points allowances need to be included elsewhere for the use of gypsum concrete for radiant heating, dual boilers with split-demand, smart boiler control systems, etc.
- 3.8 Electrical/Lighting/Appliances - Counting light bulbs and verifying that they are non-incandescent will be a time consuming process on larger homes. Some considerations should be given to the size of the home vs. the points allotted. This 4 points is far easier to obtain in a smaller home. Furthermore, compact fluorescent bulbs are yet another controversial "green" thing when the materials used to manufacture them are factored-in (i.e. heavy metals mining). Suggest this section be left out. Occupancy/Motion Sensor Controls should be expanded to include lighting control systems that have a programmed "all off" button. With different insulation techniques, recessed lights in exterior insulated ceilings might not be a problem. Suggest the code get clear on this.
- 3.9 Insulation – Suggest that blow or sprayed insulation use be pro-rated on points available / percentage use. In addition to points for insulating hot water pipes in unconditioned spaces, an equal amount of points for no hot water pipes in unconditioned spaces should be available. Points should be available for 30% recycled content insulation, as there are many products available and use will

- encourage the market to grow. There are simply too few good products greater than 70% and performance is controversial. "Formaldehyde free" insulation is a definite controversy, as all insulations are non-toxic post manufacture. These points available should be removed until the TAP can do more research.
- 3.10 Foundation – If R-10 insulation is installed on both sides of a concrete foundation wall, an equal amount of points as the ICFs should be available. Is it 8 points total with recycled content ICFs? This seems quite high.
 - 3.11 Structural Frame – The point value offered for various deck materials seems disproportionately high to the value of other items. Again, OVE framing needs to be moved to secondary measures and have point values assigned by the TAP. Three-stud corners should also be included to discourage solid framed corners. 100% two foot on-center roof framing should also be encouraged with points.
 - 3.13 Windows and Doors – Describe fully the prorating of points available for better doors and windows. This is very unclear. Furthermore, doubt whether better windows and doors should earn points without an Advanced Sealing Package. FSC certified wood windows should also earn points.
 - 3.14 Roof – If points are available for these roof materials, points should be available for 40 and 50 year shingles considering their durability. Metal roof areas need a prorated description for partial areas.
 - 3.15 Wall Finishes – If points are available for fiber cement siding, points should also be available for similar products such as LP Smart Siding, a formed and primed OSB product.
 - 3.18 Water Efficiency – Typo in the resource guide in heading "Native Plants Saved (not slaved) and Replanted". A prorating point value should be described for all water-saving toilets.
 - 3.19 Indoor Environmental Quality – Radon mitigation systems are passive or active, with the "rough-in" version described actually being the "passive" system. Whether or not one adds a fan to make the system "active" depends on test results, therefore the rough-in system should be removed from the code and three points available for any correctly installed system. Installation of mechanical ventilation systems should earn more points, perhaps five. Air filtration systems should also earn more points, perhaps three. Typo in the resource guide "carbon monoxide sensor" (not filter). Another typo in the resource guide "snow grate" (not snowgate).
 - 3.20 Other Building Certification Programs – No description of how these are being considered can be found in the resource guide, ordinance, or summary. Is it intended that you can choose other programs in-lieu-of the SSBC? If so, these other programs do not have square footage limitations and in some cases might not be as restrictive.