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C-TRAC
Meeting # 12
Topic: Code Proposal
Tuesday, November 30, 2010, 3 – 5:30 pm

PARTICIPANTS IN ATTENDANCE

Utilities Green Building Team

Amanda Sutton – Green Building Program Coordinator
 Felix Lee – Green Building Code Project Manager
 Gary Schroeder – Energy Services Engineer – Commercial GB Code Review

Facilitator

Susanne Durkin-Schindler

C-TRAC Members

Company	Representative
Aller Lingle Massey Architects PC	Brad Massey
Beaudin-Ganze Consulting Engineers	Corey Rhodes
Realtec	Peter Kast
Institute for the Built Environment	Josie Plaut
Starwood Construction Mgmt	Sandy Willison
Greg D. Fisher, Architect	Greg Fisher
Architecture West	Steve Steinbicker
PSD	Pete Hall
Bella Energy	Rick Coen

Building Officials

Jurisdiction	Representative
City of Fort Collins	Mike Gebo

Key Points:

Updates:

The first draft of the 2012 version of the IECC has just been released. Several of the green building practices that are being proposed are addressed

in the 2012 IECC. The 2012 version of the I-codes will not be adopted until 2013.

The Commercial Green Amendment proposal at a glance has been updated over the past few weeks. Several items have been dropped from the list after discussions with committee members, subject matter experts, and the green building team.

- ◆ The requirement for water meters for multi family residential was removed due to the complications associated with implementation of this measure.
- ◆ Once through cooling was moved to the incentive measures because it does not really fit with the building code.
- ◆ The efficient pre-rinse spray valve requirement was moved to the water efficiency section that outlines maximum fixture flow rates.
- ◆ Isolation of pollution sources is covered in the existing code to some extent.
- ◆ Asbestos use prevention was removed from the list. Asbestos continues to be found in some building products but there are no labels for those products. It would be difficult to verify and enforce.
- ◆ VAV fan control is covered to some extent in the existing building code. This is largely covered in IECC 2009 and ASHRAE 90.1. Requiring this may limit other equally or more efficient practices, such as variable refrigerant flow.

The green building website is being updated to include detailed descriptions of each green building practice for both residential and commercial. Those are being posted as they are completed. Some information will continue to be updated as the process moves forward.

Committee Comments:

- ◆ The City needs to be clear about the definitions for "tenant finish" and "alteration" and how the new codes will impact those spaces.
- ◆ The energy assessment requirement should apply to additions as well as alterations. This would make sense to do this if the City has the capability.
- ◆ Is the addition building on to or tying into existing systems? If it is tying into existing systems, then the entire building (old and new) should have to have an energy assessment.
- ◆ Commissioning should be required for core and shell buildings even if the interior is not sold or rented yet.
- ◆ If a space changes use then an energy audit would need to be done.

- ◆ The goal would be to have that information sooner than later so that the performance of the whole system can be addressed.
- ◆ The goal of this measure is to raise awareness about efficiency and encourage owners to take steps to improve their existing building.

Review Benefits and Costs Analysis

The Brendle Group has been assisting the City with developing the Benefits and Costs Summary for the building code green amendment proposal. The Brendle group is working on developing both a bottom-up and top-down cost/benefit analysis. The analysis looked at both quantitative and qualitative costs and benefits and tried to focus on the bigger picture as opposed to just initial costs. Each section was then assigned a range (low, medium, high) to give an idea of the cost and benefit. Those estimates were then added up to determine the overall costs of the base proposal and potential utility savings.

Committee Comments:

- ◆ The analysis lists "increased property value" as a benefit. How is that going to be documented?
- ◆ Appraisers may or may not recognize "green" attributes to building.
- ◆ A construction estimator could help give local and accurate cost estimates.
- ◆ There is a danger when doing this analysis that there is a bias. Are conservative numbers being used?
- ◆ The energy savings described in the cost benefit analysis are similar to what is seen with LEED silver or gold buildings.
- ◆ The cost increases are consistent with the national level but it is important to remember that if an integrated design and build approach is used the cost increase could be zero.
- ◆ These costs are comparable to LEED but we are not going anywhere near the LEED level with this proposal. The savings seem like they are exaggerated.
- ◆ These numbers look right from an energy modeling perspective, but models do not always reflect "real world" energy use. It seems low when looking at it realistically.
- ◆ Efficient mechanical systems can represent a large financial jump from some base systems that are being offered. Some project budgets cannot afford such an expense. LEED projects start in a certain budget range.

When looking as base level, code compliant buildings the cost increases may be too much for some projects to handle.

- ◆ \$150 per sq.ft. is a mid-class building not a minimum code compliant building. It would be helpful to see what the cost ranges are for different types of buildings with lower project budgets.
- ◆ How will the new codes impact the code compliant bare minimum buildings?
- ◆ The baseline is based on a constant volume mechanical system. The intention of the code is to improve the items that are lost opportunities and not necessarily mechanical systems.
- ◆ It seems like the projected utility savings are high for what measures are being required in the new code amendments.
- ◆ Staff took an additive approach for savings which may have over-estimated the overall results.
- ◆ \$150 per sq. ft. does not include the land. It just includes the building.
- ◆ City Council may question these numbers. It is important to document where the numbers come from and how the final summary was reached.

Low VOC Emitting Materials

One of the recommendations in the amendment package requires the use of Low VOC materials including sealants, flooring, carpeting, sealants, finishes, cabinetry, and sheet goods. One EPA study on building healthy hospitals showed a high cost increase for the use of low VOC materials. Staff is looking for feedback from the committee on this issue.

Committee Comments

- ◆ Past experience with LEED buildings have shown that there is little or no cost increase for low VOC materials.
- ◆ Multiple suppliers and manufactures exist that can supply these materials easily to contractors.
- ◆ The low or no VOC materials used in a hospital may be more expensive than what is used in other types of commercial construction.
- ◆ Urea-formaldehyde free cabinetry can be very expensive.

Daylighting

After a great deal of discussion, daylighting was removed from the list of proposed amendments. It would be too constrictive to write prescriptive requirements around daylighting. The energy modeling on top lighting showed that it was a net energy loser. It would require additional heating costs. Side lighting continues to show energy savings when put into an energy model, however it is difficult to mandate side lighting design. Staff would like feedback from the committee about dropping this amendment.

Committee Comments

- ◆ The use of the building can have a big impact on the energy savings from daylighting. A store open 24/7 has equipment and lights running all of the time that help heat the space at night. An office building that shuts down at night will lose heat.
- ◆ The City should think about requiring photocells in light fixtures in exterior zones. That technology has been shown to be low cost but have energy savings.
- ◆ Some "no-brainer" applications may exist for daylighting. It may be best to regulate the easy applications for daylighting instead of dropping it all together.
- ◆ If it makes sense for big box stores to do this then it has to make sense for other retail stores.

Staff will take another look at how this could be a requirement for big box retail.

Budget

To help determine staffing and budget needs Mike Gebo from the Building department went through each of the amendment measures and tried to estimate the amount of time that would be added to plan review and inspection. The current proposal would increase plan review time by 12-17%, field inspection time by 40%, and administration time by 50%. This is still just a draft.

Committee Comments

- ◆ It would be great to see these items ranked and then compared to the amount of time it takes for the building department. If something takes a great deal of additional time but is not highly ranked then maybe staff could consider modifying or dropping that requirement.
- ◆ The size of the building would impact the time it takes for the building department to review the plans and inspect the building.

Outreach and Comments

The GB team has been doing a great deal of public outreach in the past month. Staff has presented to boards and commissions and hosted an open house. Several comments have been collected.

Appraisals

- ♦ Commercial appraisals include narrative analyses that illustrate specific attributes and their added value to the base cost of the building.

Benefits

- ♦ Consider the environment and triple-bottom-line benefits.

Costs

- ♦ Provide a Costs and Benefits Analysis of Building Code Green Amendments (BCGA).
- ♦ Specifics of costs to builders/developers to build in compliance with BCGA?
- ♦ Concern about increased construction costs of BCGA drive builders and projects out of community.
- ♦ Request a broad-based assessment on return on investment (ROI) and utility savings

Current Economy Concerns

- ♦ Current downtrend for building industry – very limited number of new projects and lenders not making construction loans.
- ♦ Added costs to comply with BCGA in a poor economy.

General

- ♦ Supportive of the direction the City is headed with proposed green amendments.
- ♦ Positive response to integrating amendments into existing codes.

Education and Resources

- ♦ City should provide ongoing education and resources for public.
- ♦ Ongoing education and training very important element once BCGA implemented.
- ♦ City should provide BCGA guideline resources for construction industry professionals and public alike.
- ♦ Importance of educating appraisal and lending industry professionals on the economic benefits of green building.

Effective Date

- ♦ Timeline for implementation?
- ♦ What is the last possible date a building permit can be obtained to comply with current codes, and not BCGA?
- ♦ Consider an effective date past 2012 due to poor building industry economy.

Electric Heat vs. Gas Heat on Large Projects

- ◆ Develop disincentives for large projects using electric heat – such projects create a disconnect between goals of Climate Action Plan and energy-efficiency building codes.

Historic Buildings

- ◆ Application to historic buildings?
- ◆ Application to façades of downtown historic properties?

Inspections and Verification

- ◆ Develop process for feedback from 3rd party inspectors to City staff so staff is aware of any issues.
- ◆ Will current City inspectors be trained on new amendments and are they currently trained in multi-disciplines of inspections?
- ◆ City, Larimer County and other jurisdictions within county should adopt same building codes and green amendments for consistency and ease for builders/developers.

Construction waste management and recycling

- ◆ Recycling construction wood waste economically more feasible than landfill fees.
- ◆ Negative experience recycling other construction waste due to noncompliance of subcontractors—even when signage is both in English and Spanish.
- ◆ Issue with residents dumping trash in construction dumpsters.
- ◆ Consider a deconstruction plan requirement for projects over a certain size.

Indoor lighting

- ◆ Include an after-hours lighting requirement for businesses in addition to outdoor.

Landscaping

- ◆ New requirements integrated into Land Use Code?

Ventilation

- ◆ Include requirements for stairwells.

VOCs

- ◆ Is the City liable for new class of VOCs released into the indoor air other than what's prescribed in proposed BCGA?
- ◆ Documentation via an affidavit needed for compliance with VOCs.

Staff Resources

- ◆ What are the additional staff resources needed to administer BCGA?
- ◆ Raise permit fees to pay for additional staff required to administer BCGA.
- ◆ Consider additional staff time for increase in appeals to the boards (most notably the Building Review Board).

Committee Comments

- ◆ The new energy code requires that new buildings have lighting controls that shut down the lighting after the building is closed.

Next Steps

- ♦ Council Work Session - December 14, 2010
- ♦ Public Outreach and Open House - February 2010
- ♦ City Council: 1st reading - March 1, 2010
- ♦ City Council: 2nd reading - March 22, 2010