

Building Code Adoption Process

Meeting #5

June 4, 2009

3:00 – 5:00 p.m.

Chief Building Officer (CBO) Will Birchfield reminded those in attendance about the website. He also reminded everyone that any code changes discussed in these meetings will be local amendments, which are only valid within Town boundaries.

CBO Birchfield reviewed slides that were presented at meeting #3, including construction document submittal requirements. Various loads (dead, live, roof, snow, etc) were discussed. He reviewed the topics previously discussed by Design Professionals Joe Calvin, John Spooner, Wayne Thompson. He said even if the building design does not require stamped plans, plans still need to show the calculations for the various loads.

CBO Birchfield stated the determination of elevation should be consistent, and recommends using the Larimer County topographical maps. The official resource would be the link to these maps on the Larimer County website.

CBO Birchfield proposes to design for wind speeds of 50-year events, and for 100-year floods. Wayne Thompson stated there are adjustments for height variations, and prescriptive changes would be required. Case studies are required for Estes Park. According to the Larimer Wind Speed Gust Map, Estes is between 137-140 mph. It is recommended to use 140 mph as the standard.

Concerning the exposure category, Table 1609.4, it is suggested to use the exception, since the exception is written for buildings less than or equal to 30 feet in height. John Spooner had a handout and explained when designing, he will always use the specifications that are listed in the various design books. He suggests to adopt the proposed wind speeds in the report and allow for altitude corrections. He recognizes we have the 130-140 mph winds in Estes Park, but believes it can be designed down due to the altitude. Mr. Spooner suggests using the Wind Speed Corrected for Altitude Chart – Ex: 130 mph at sea level can be adjusted to 117 at 7500 feet above sea level. Larimer County adopted requirements state the exposure category for wind should be determined on a site-specific basis. Mr. Spooner recommends exposure B, unless shown otherwise, which would be in line with the County. The 2003 IRC only goes to 110 mph, so Estes Park would need to determine standards. Steve Lane stated Larimer County came up with prescriptive requirements that list certain conditions when you can use these prescriptive requirements. Larimer County reviewed these requirements via a committee, noting these were meant for simple, square buildings where people could use the basic standards without having to hire a design professional. Standards are

fairly limiting because they are for very simple buildings. There was discussion about exposure. CBO Birchfield states the exposure determination needs to be made before the permits are issued. Wayne Thompson thinks we could use exposure B and the wood frame construction manual, and feels we need to have a default exposure category. There was some concern about out-of-state builders not knowing what the default is. CBO Birchfield noted any pre-fabricated buildings will need to be built according to our design criteria, including exposure. Exposure C is the current default. CBO Birchfield recommends allowing buildings requiring a design professional requiring exposure C unless they can justify a change to B with a site-specific analysis. He recommends using the 140 mph wind speed. Steve Lane wants to know if justification will be accepted and how much information would be needed on the plans. CBO Birchfield believes the department should allow for altitude reductions and exposure categories.

CBO Birchfield stated the design for wind is only required for the west quadrant, and asked for input about using Exposure C. John Spooner believes the department should identify and map the C areas of town, with the Mary's Lake area listed as C. Director Joseph would prefer not to instill too much confidence in a map, but rely more on the designer to determine the exposure category. CBO Birchfield would prefer to keep it simple. Joe Calvin suggested creating a map that leans towards Exposure C. CBO Birchfield stated Exposure B with 140 mph wind speed is the same as using the WFCM for 120 mph at 8000 feet when you take the altitude adjustment. It may be possible to create a map so you could use exposure C unless the map specifically says something different. The group did not reach consensus about which exposure to use, although they supported Director Joseph's idea about creating a map to help determine the exposure category. Wayne Thompson mentioned the possibility of conflicts with people wanting a building in an exposure C category and trying to get the design professionals to make it a category B. Paul Brown stated Larimer County excluded damaged windows because of the possibility of catastrophic failure. Steve Lane stated pressure-rated windows are more about wind-driven rain, and impact-resistant glass is designed for hurricane-prone areas. There are some structural design criteria for cladding versus wind pressures. John Spooner noted the Estes Park area deals with wind pressure, not impact, and questioned the use of a higher-rated window.

Discussion continued about 1609.3 Basic Wind Speed. It was suggested to remove the second paragraph, "The required Wind Design Speed for any given project area shall comply with the Colorado Front Range Gust Map," and add a table in the third paragraph that includes the wind speed adjustments due to elevation.

Consensus was reached for using 120 mph (sea level equivalent) as the minimum standard. Any national standard that is designed for 120 mph or above will be accepted as the design on buildings that do not require a design professional. The group believes the importance of making sure the 120 mph wind speed involves using the altitude correction factor should be stressed. John Spooner thinks this description should be included in the code. All agreed on the technical aspect, but want the code language to

be clear. CBO Birchfield is proposing an amendment stating 140 mph wind speed with the adoption of the wind speed map and including altitude reductions. Adjustments for altitude will allow for prescriptive designs for 120 mph 3-second wind gusts.

CBO Birchfield asked for comments concerning seismic categories and subsequent soil-bearing capacities. If the department classifies the soils for more than one type, it will change the bearing capacities. Wayne Thompson is comfortable with class B. CBO Birchfield agrees, and will probably recommend category B. CBO Birchfield is thinking about only using seismic on category III or IV. Wayne Thompson stated the issue will be covered by the design professionals. CBO Birchfield noted the current code states all seismic information should be on the submittals. John Spooner believes the department should amend the code not to require the seismic information unless it is a factor III or IV.

In closure, CBO Birchfield stated the proposed code revisions will be posted on the Town website. He would like to complete as much “housekeeping” as possible prior to taking the amendments to the Town Board. Public comments are allowed to be posted on the website, and are encouraged. CBO Birchfield asked Steve Lane to assist with presenting Larimer County’s prescriptive requirements to this local group, and he agreed. The next meeting will most likely be a review of the amendments and the code language discussed today and in previous meetings in order to get approval from the group.

The meeting adjourned at 5:05 p.m.