



Community Development

BUILDING INSPECTION NEWSLETTER

JULY 2006

CITY OF GREELEY
COMMUNITY DEVELOPMENT DEPARTMENT
BUILDING INSPECTION DIVISION
1100 10th Street, Suite 114

This newsletter has been produced by the City of Greeley staff in an effort to provide better communication with the construction community.

If you have any questions or would like to see certain items addressed in this newsletter, please call (970) 350-9830.

S E R V I N G O U R C O M M U N I T Y • I T ' S A T R A D I T I O N

We promise to preserve and improve the quality of life for Greeley through timely, courteous and cost effective service.

STAFF

*Rebecca L. Safarik
Community Development Director
350-9785*

*Tim Swanson
Chief Building Official
350-9853*

*Regina Rivera
Building Inspector Technician
350-9832*

*Denise Tenorio
Administrative Specialist
336-4028*

*Lidia Garcia-Ryder
Clerical Assistant
350-9830*

*Steve Gregory
Building/Electrical Inspector
350-9834*

*Matt Wagy
Plans Examiner/Building/Plumbing Inspector
350-9837*

*Randy Eckhardt
Building/Electrical Inspector
350-9381*

*John Phillips
Plans Examiner/Building Inspector
336-4157*

*Shane Gremmer
Building/Electrical Inspector
350-9836*

*Mike Giroux
Building Inspector
350-9835*



BUILDING INSPECTION DIVISION

CITY OF GREELEY'S WEBSITE

FYI The City is constantly working on its website and we strive to keep our Division webpage updated also. The following link will lead you to the City Code's Chapter 16, which has all the construction related code amendments that the City has currently adopted.

<http://www.greeleygov.com/cog/OrgPages/3/title16.pdf>

If you follow this link it will lead you to our division home page where you can get a variety of forms, applications, design info, and other valuable information.

<http://www.greeleygov.com/cog/PageHome.asp?fkOrgID=50>

While your there, click on the home page link and explore the entire city site, you would be surprised at the amount of information that is available.

CONTRACTORS

The general contractor listed on single family building permits is responsible for ensuring that all sidewalk, curb, and gutters are protected along streets adjacent to their lots. If any damage occurs during construction, the general contractor is responsible for replacing the damaged areas. Throughout the inspection process, and especially during final Certificate of Occupancy inspections, the Building

Inspector will be checking the sidewalk, curb, and gutters for chips and/or cracks that may have occurred during construction. Certificate of Occupancies will not be issued until the damaged concrete is repaired. Protection of the concrete areas during construction can eliminate additional costs and delays. Also note that a permit from the Public Works Department at 1001 9th Avenue is needed to do any work in the public right-of-way.



THRESHOLD MEASURING

In the past, under the 1997 Uniform Building Code, the code text was silent on how to measure the stair rise from a tread, or landing, through the threshold of an exterior type door, including garage/house entry doors. The only guidance we had was from the Handbook to the 1997 UBC, which had a drawing showing the measurement was to be taken from top of the adjacent tread, or landing, to the finished floor inside the threshold. While the handbook was not code, it was the only reference available that attempted to specify how to measure threshold situations.

Once the 2003 International Residential/Building Codes were adopted, the code itself clarified the measurement, through the text, consistently referring to the "top of threshold" when specifying measurements at a threshold.

When we adopted the I-Codes, we realized there would be a period of time required to re-educate those contractors that dealt with this code requirement. It has been this offices policy since we adopted the codes, to

use this time as a training opportunity for the contractors. We have accepted a measurement that would fall in between the two different points, the “top of threshold”, to the “finished floor”, as long as all other requirements of the rise were compliant. We then could educate the contractor as to the proper way to measure the rise.

It has been 18 months since we adopted the I-Codes, and we feel that it is time to start fully enforcing the code text as it is written. Any permit applied for after August 1, 2006, will be required to fully comply with the code requirement, without exception. The measurement must be taken from the adjacent tread, or landing, to the top of the threshold. If you have any questions on this requirement, feel free to contact the office and ask to speak to a plans examiner or one of the inspectors.



ROUGH-IN

Just another reminder, we require all of the basement rough-ins to be complete at the time the rough-in inspection is requested for the whole house. This includes, but not limited to;

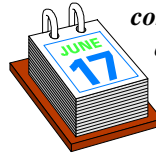
- ✓ Furnace(s) and water heater(s) set.
- ✓ Vents, and vent connectors, to the water heater(s) and furnace(s) installed.
- ✓ Required combustion air ducting installed.
- ✓ Gas piping installed, and under test.
- ✓ Sump pit piping completed to exterior.
- ✓ PRV installed.
- ✓ Electrical installed for the future sump pump.
- ✓ Electrical bonding, and grounding done.
- ✓ Basement windows installed.

Failure to comply with these installation requirements will, at the minimum, will force a reinspection. Or, it could cause the inspection to be postponed entirely, until the rough-in installations are completed, causing even more delays.

EXPIRED BUILDING PERMITS

The 2003 International Building/Residential Codes state:

“Every permit issued shall become invalid unless the work on the site authorized by such permit is within 180 days after its issuance, or authorized on such permit is commenced if the work on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced.”



When a building permit application is submitted, the application is valid for 180 days. After 180 days it will be voided, and discarded. A new application, including any required fees, must be submitted prior to a permit being issued. When the building permit has been issued, the permit is open and remains valid for 180 days.

The Building Inspection Division is still having problems with permits not getting final inspections. Many times these projects have been completed, but final inspections were not requested. If the project has remained dormant for more than 180 days when a final inspection is requested, in order for the final inspection to be done at that time, the permit must be re-opened and the fees need to be paid. This certainly creates problems for both the contractor, and the Inspection Department. By the time a permit expires, a minimum of three letters have been sent to the contractor of record, letting them know the permit is about to expire. A final inspection can be done without having

to pay deferred fees, or obtaining the Certificate of Occupancy, those are required before the structure can be occupied. It is best that you call for the final inspection when the project is completed, and not wait until you are in need of the Certificate of Occupancy.

WHY INSPECTIONS FAIL

The following is a list of items frequently found on correction notices:

- Fire blocking in all vertical and horizontal chases. (i.e., soffits, drop ceilings, tops of flue chases, tops of unusable space chases)
- Cut and/or notched trusses and joists. If you are aware of this problem, prior to inspection contact a structural engineer or manufacturer's representative for their recommended repair, make the repair and have the repair instructions on site.
- Missing truss specs. If the specs aren't there, most likely there's missing bracing.
- Improper use, or installation of, hangers, connectors and fasteners.
- Missing address numbers. Both temporary at construction, or permanent at final.
- Structures not dried in properly, meaning all wall sheathing installed, minimum felt and flashings on roof, exterior windows and doors installed.
- Tempered glass not installed in hazardous locations. Most frequent areas failed are:
 - 1) Within 24" of ANY door.
 - 2) Glazing in walls enclosing stairways/landings, or within 5' of the bottom/top of stairways, where the bottom edge of

the glass is less than 60' above a walking surface.

3) Within 60" vertical of a standing surface and drain inlet in tub/shower.

4) When ALL of the following occur;

- a) An individual pane is greater than 9',
 - b) Bottom edge is less than 18 " to the floor,
 - c) Top edge is greater than 36" off the floor,
 - d) One or more walking surfaces within 36" horizontally of the plane of the glazing.
- Rough-in discharge pipe for the sump pit not done.
 - Furnace and water heater vent connectors too long, or not installed at all.
 - Electrical rough-in not done on furnace and/or sump receptacle.
 - Exhaust fan ducts not connected.
 - Gas pipe not completed, or not under test.
 - Plumbing test cards not signed and on site.
 - GFCI outlet at sump not on a dedicated circuit.
 - Improperly wired GFCI receptacle outlets.
 - Receptacle outlets connected with reversed polarity.
 - Smoke detectors not on a lighting circuit.
 - Incorrect clearance between light fixture and shelves in a closet.



General contractors, take a few minutes and walk your projects prior to requesting an inspection. These are simple corrections that if taken care of ahead of time, could keep your project from having unnecessary delays.

BUILDERS BREAKFAST



The spring Mayors Builders Breakfast was held April 12, 2006, at the Recreation Center. Mayor Tom Selders gave a presentation highlighting

construction activity in the past year. A date, and topic, has not been selected for the fall breakfast. Contact your homebuilder's association or the Building Inspection office at 970-350-9830 if you have any topics of interest you would like to see presented at that, or future, breakfasts.

CONNECTORS AND FASTENERS

In the past couple months it has come to our attention that some of the engineered connectors such as joist hangers, beam hangers and "hurricane clips" are not being installed with the proper fasteners. The majority of the products used in this area are made by Simpson who has an abundance of information available regarding the installation of their products. A few minutes of research, prior to installing any connectors, can save a lot of time later on. Improper installation can lead to lost time at the minimum, with repairs and reinspecting holding up the job. If your uncertain about which fasteners to use, contact your local Simpson Representative, or your supplier.

INSPECTION REQUEST

When you call the inspections in on a cell phone, you are doing so at your own risk. Bad reception, wind noise, heavy equipment or tool noise, and incoming calls all interfere with cell phone inspection requests. Many times, what we hear on the inspection line, we can't understand, and if we can't understand it, we can't schedule an inspection.

Failure to provide three pieces of information will result in the inspection not being scheduled, which will delay you at least one full day. Please remember to have the permit number, address and what type of inspection you are requesting, when scheduling an inspection.

If a request for an inspection is received by Building Inspection before 8:00 a.m., the inspection can be done between the hours of 9:30 a.m. and 5:00 p.m. that day. After 8:00 a.m., the inspection will be scheduled the following working day. While we still cannot guarantee times, or even morning/afternoon, we will try to accommodate requests. Keep in mind that priority is given to concrete pours and water/sewers, but even then, it is recommended that concrete orders and pumpers should not be firmly ordered, based on a time request.

You may call to schedule an inspection at any time, day or night.

**24-hour Inspection Request Line
(970) 350-9840**



CERTIFICATE OF OCCUPANCY

Please remember that the Building Inspection Department requires **24 hours after the final inspection, including re-inspections**, before a Certificate of Occupancy can be picked up. Additional staff time is required from the time the final inspections are performed to process the inspection results in the computer system and type the Certificate of Occupancy.

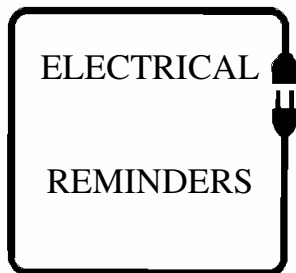
Final approval of building permits often requires the sign-off by several City Departments. It is your responsibility to contact all departments required to sign-off on your permit, prior to attempting to obtain a Certificate of Occupancy.

STUCCO AND EIFS – INSPECTIONS OR NOT?



If your structure has Stucco (Exterior Lath and Plaster) or EIFS (Exterior Insulation and Finish Systems), the City of Greeley requires an inspection on either system. EIFS, foam backed system, is an engineered system and needs to be inspected by a special inspector such as the manufacturer representative or a third party inspector. Inspection results are to be submitted to Building Inspection prior to the CO/Final Inspection.

Stucco inspections done by the City of Greeley Inspection Department will be per R703.6 of the 2003 IRC and Article 2512 of the 2003 IBC, or it may be done by a special inspector as well.



NEC ARTICLE 517.13 (A) & (B)

The City of Greeley and State of Colorado Electrical Board interprets that any structure that is occupied by any professional with the letters M.D. after their name shall meet the

wiring method requirements of NEC 517.13. This is extended to chiropractic offices also. Standard Type MC Cable does not meet the requirements for redundant grounding means. Type HCF (Health Care Facility) MC or AC Cable must be utilized in these applications or some type of metallic conduit system such as RMC or EMT.

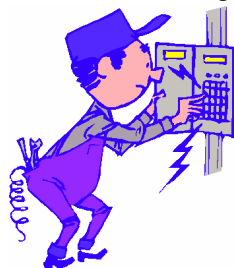
2005 NATIONAL ELECTRICAL CODE AMENDMENTS

Last Fall the City of Greeley, City Council formally adopted the 2005 National Electrical Code and several amendments to this Code. You may view these amendments by logging on to the City of Greeley's web site at www.greeleygov.com, and clicking on "your government" and then "city code" and go to Section 16.32 of the Electrical Code.

A few of those amendments include the following:

2005 NEC Article 90.8(A). Future Expansion and Convenience.

The following paragraph was added to the existing: Provisions shall be provided in the initial electrical installations to allow for future additional loads, feeders and branch circuits. A minimum of three (3), full size breaker spaces shall be provided in each panelboard at the time of final inspection. In addition, a minimum of a one (1) inch spare conduit or adequate pull wire provision shall be provided from each flush mounted panelboard into the attic space and also into the basement or crawl space for future use.



**2005 NEC Article 210.1(C)(3).
Bathroom Branch Circuits.**

The following paragraph was added to the existing Exception: A minimum of one lighting outlet (not required by this Code to be GFCI protected) shall be connected so as not to be protected by the GFCI personnel protection device.

**2005 NEC Article 210.52(I) Added.
Framing in Basements.**

In new construction and remodels, if all or any part of the walls of an unfinished basement is framed, the electrical receptacle outlets as required by NEC 210.52, and switch and luminaire outlets as required by NEC 210.70 shall be installed. If the walls, floors, and ceilings are not going to be finished, the outlet devices do not have to be installed, however, the outlet boxes shall have blank cover plates installed on them before the final inspection can be approved. If receptacle outlets are installed, they shall



have GFCI protection for personnel, if no floor covering is installed at the time of final inspection.

2005 NEC 210.52(J) Added. Sump Pit Receptacle Outlet.

A 125-volt, single-phase, 15- or 20- ampere receptacle outlet shall be installed adjacent to and within 18” of the sump pit as required by 16.28.460 (Plumbing Section). This receptacle outlet shall be on a dedicated branch circuit and shall be GFCI protected.

**2005 NEC Article 230.70(A)(1).
Readily Accessible Location.**

The following paragraph was added to the existing: For a one-family dwelling, the service disconnecting means shall be located on the exterior of the structure adjacent to or combined with the utility meter enclosure.

**2005 NEC Article 334.10(2)and
334.10(3). Uses Permitted for
Types NM, NMC and NMS Cables.**

(2) Multifamily dwellings permitted to be of Types III, IV, and V construction up “up to three (3) stories in height only and their accessory structures”, except as prohibited in 334.12.

(3) Deleted in its entirety.

These changes now only allow Type NM-B cable (Romex) to be used in residential construction only and only to a height of three stories within the city limits of Greeley.

**2005 NEC Article 342.10(B) and
Article 344.10(B). Corrosions
Environment.**

Due to the corrosive effect of the soils on metal in the Greeley, all IMC and RMC, elbows, couplings, and fittings shall be protected with approved protective coatings or wrapped with approved pipe wrap if in direct contact with the earth.

**2005 NEC Article 348.60 and
Article 350.60. Flexible Metallic
Conduit and Liquidtight Flexible
Metallic Conduit.**

Both Articles are amended to read: An equipment grounding conductor shall be installed in all flexible metallic conduits and shall be installed in accordance with Article 250.134.(B)

Other amendments have been adopted that document installation methods required by the City of Greeley for several years. Log onto the City of Greeley’s web site (www.greeleygov.com) to review Sections 16.32.010 through 16.32.470 of the Greeley Municipal Code for information on those amendments as well as the revised Administration and

Enforcement Section 16.32.190 for electrical contractors and installations in Greeley.

TEMPORARY ELECTRICAL SERVICES

ELECTRICAL PLAN SUBMITTALS



When a permit application is submitted for any project where the electrical service exceeds 200 amperes, the following shall be submitted for the application to be processed:

1. Load calculations
2. One-line diagram
3. Fault current calculations

For core and shell projects, use the values in the 2002 NEC Table 220.3(A).

For tenant finish and major projects, a complete set of electrical drawings must be submitted with the permit application. In addition to the above items, these plans shall include:

- Luminaire schedule
- Luminaire layout including exit and egress fixtures
- Receptacle outlet layout
- MDP and/or panel board(s) layout
- Circuitry of all luminaries
- Circuitry of all outlets and devices
- Panel board schedule showing balanced loads

In other words, the contractor needs to provide a complete set of working drawings submitted with the permit application. It is a lot easier to do the field installation if you have already laid it out on paper. Plus, the City of Greeley can review the plans to see if they meet NEC requirements.

As some of you may have already found out the hard way, we are checking the Available Fault Current on construction temporaries. The only single phase transformers you can set a regular “house” temporary, without cold sequencing, is a 25 KVA transformer. 50 KVA and larger transformers exceed the 10K limit that the breakers in the temporary are rated for, and will have to be cold sequenced with the appropriate fuses.

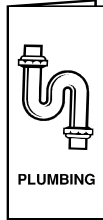
References: 2005 NEC Article 110.9 and XCEL Energy Standard for Electric Installations, page 48.

STAIRWAY ILLUMINATION

2003 International Residential Code R303.6 requires that all interior and exterior stairways shall be provided with a means to illuminate the stairs, including the landings and treads. Interior stairways shall be provided with an artificial light source located in the immediate vicinity of each landing of the stairway. For interior stairs, the artificial light sources shall be capable of illuminating treads and landings to levels not less than 1 foot-candles (11 lux) measured at the center of treads and landings. Exterior stairways shall be provided with an artificial light source located in the immediate vicinity of the top landing of the stairway. Exterior stairways providing access to a basement from the outside grade level shall be provided with an artificial light source located in the immediate vicinity of the bottom landing of the stairway.

Exception: An artificial light source is not required at the top and bottom landing, provided an artificial light source is located directly over each section.

Your Plumbing Connection



PLUMBERS

Section 604.9 of the 2003 International Plumbing Code requires the use of an A.S.S.E approved water hammer arrestor on all quick closing valves. Building Inspection has been requiring them on all washer boxes, effective September 1, 2005. Please have them installed at rough-in inspection.

C.S.S.T. GAS PIPING

The City of Greeley Building Inspection Department will be requiring gas calculations on all new construction. Please have them ready at the time of rough inspection along with all other required paper work.

For all who use any type of C.S.S.T. gas piping, the City of Greeley Building Inspection Department will also require the use of black iron gas piping on all exterior walls. Once in the attic, the use of transition fitting may be used and C.S.S.T. piping can continue through out the structure.

CHECK OUT OUR NEW WEBSITE

Need forms? Our website now has building permit applications as well as other useful information.

You can also let us know if you have suggestions for what you would like to see or download from our website. Come visit us at greeleygov.com.

We look forward to reading your comments and suggestions.



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