Construction Code Communicator

State of New Jersey
Jon S. Corzine, Governor

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Joseph V. Doria, Commissioner

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AAVs: Permitted or Not Permitted?

Does the Plumbing Subcode, the 2006 National Standard Plumbing Code (NSPC/2006), allow the installation of air-admittance valves (AAVs)?

The answer to this question may be found by referring to NSPC/2006, Appendix E, "Special Design Plumbing Systems," Section E.8, "Air-Admittance Valves." This section specifies that the installation of AAVs are allowed only when the special design plumbing system is designed by a registered design professional who is licensed to practice in the particular jurisdiction. Therefore, if AAVs are used, the system must be designed by a New Jersey Registered Architect or New Jersey Licensed Engineer.

Under a rehabilitation project, the code official may allow the installation of an AAV by considering a variation based on hardship caused by existing conditions. This is a judgment to be made by the code official. The code official may consider and may issue, but is not required to accept and approve, the variation.

Should you have any questions, you may contact me at (609) 984-7609.

Source: Thomas C. Pitcherello
Code Assistance Unit

Accessible Controls and Operable Parts

It has come to the Department of Community Affairs' attention that there is some confusion about whether controls and operable parts are required to be accessible — and if they are, what that means.

In the technical standard adopted in the Barrier Free Subcode, the International Code Council/American National Standards Institute (ICC/ANSI) A117.1-2003, Section 309 requires that operable parts be within the established reach ranges, 15 inches to 48 inches above the finished floor. This is the general rule; as always, there are specific questions that require additional thought.

- **Q:** If a light switch is mounted at 48 inches, but the toggle is at 48 1/8 inches when it is up, does that meet the reach ranges?
  A: Yes.
- **Q:** If an outlet receptacle is mounted at 48 inches to the center line of the outlet, is it acceptable that one of the outlets is higher than 48 inches or lower than 15 inches?
  A: Yes.
- **Q:** If there is a dedicated outlet for a single appliance and the appliance is permanently installed, or installed to be used without removal, may the outlet serving that specific appliance or device be installed outside the required reach ranges?

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A: Yes. Examples of this include outlets for a microwave oven that is permanently installed in a dwelling unit, the outlet for a refrigerator, and the outlet for office equipment that is installed for — and is not removed by — an employee.

If you have any questions, please contact the Code Assistance Unit at (609) 984-7609.

Source: Emily W. Templeton
Code Development Unit

Conflict-of-Interest Update

Effective May 7, 2007, *N.J.A.C.* 5:23-4.5(j)l, Conflict of Interest, was expanded to include the project of any public official or employee having direct or indirect control over the funding or operations of the enforcing agency and any close relative or household member of any such public official or employee, where said person has an economic interest. A "close relative" is further defined as a parent, grandparent, son, daughter, brother, sister, or spouse of the public official or employee.

This new requirement needs a little explanation. If a project of a public official or employee, or any close relative or household member, is brought to the attention of the enforcing agency, the enforcing agency must make arrangements with another municipality to perform the required construction code enforcement. A written record concerning which municipality performed the construction code enforcement on the project should be kept.

These requirements are further explained in a rule proposal published in the *New Jersey Register* on June 2, 2008. This rule proposal provides that an official must not "knowingly" carry out any enforcement procedure designated to be a conflict situation under *N.J.A.C.* 5:23-4.5(j)1. Under the rule proposal, "the public official or employee having any direct or indirect control over the operation of the enforcing agency" part of the regulation is limited to the official himself and any household member, rather than a close relative as the regulation currently reads.

In a companion change, this rule proposal also amends *N.J.A.C.* 5:23-5.25(c) by including a Department of Community Affairs' finding of a violation of *N.J.A.C.* 5:23-4.5(j)2 (the traditional conflict-of-interest regulation) as constituting grounds for revocation of an official's construction code licenses.

If you have any further questions, contact Robert Hilzer or William Ferguson at (609) 984-7768.

Source: Robert Hilzer
Office of Regulatory Affairs

NSPC Public Hearing to be Held in New Jersey

The National Standard Plumbing Code (NSPC) Committee is meeting in New Jersey! The NSPC Committee will consider proposed changes to the NSPC at a public hearing scheduled for **Thursday, August 21, 2008. The hearing will begin at 8:00 a.m. EST at the Sheraton Atlantic City Convention Center Hotel in Atlantic City, New Jersey.** The public is invited.

Proposed code changes were due April 24th. The code changes approved by the Committee at the public hearing, and the changes that were approved and included in the 2007 and 2008 Supplements, will be included in the 2009 edition of the NSPC, scheduled for publication in early 2009.

Our request that a public hearing be held in New Jersey has been granted. Now, **we must have a good showing** at this hearing. Please **mark your calendar for August 21**, Sheraton Atlantic City Convention Center Hotel, 8:00 a.m. and support having the NSPC public code change hearings in New Jersey.

The submitted proposed code changes will be considered and voted on at this public hearing. They will be available on the Plumbing-Heating-Cooling Contractors-National Association web site for your review. Visit http://www.phccweb.org under "*Contractor Resources — Code and Technical Support.*" For more information, contact Julie Turner at (800) 533-7694 or turner@naphcc.org.

Source: Thomas C. Pitcherello
Code Assistance Unit

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Fire-Suppression Systems for Balconies and Decks in Residential Construction

As per Section 903.3.1.2.1 of the 2006 International Building Code (IBC/2006), sprinkler protection is required to be provided for exterior balconies, decks, and ground-floor patios of dwelling units where the building is of Type V construction. The code section also contains technical requirements for the installation of sidewall sprinkler heads in these locations. Because there are no sidewall sprinkler heads listed for installation under open wood joists, the purpose of this article is to clarify the Department of Community Affairs' position on this matter.

As a reminder, there is an established hierarchy concerning the relative importance of regulations, codes, and technical standards, including listings, to determine whether a requirement that is outside a specific category is acceptable and enforceable. At the top of the hierarchy of construction codes is the statute. Following that are the regulation, the model code itself, a technical standard, and at the bottom of the hierarchy is the listing. Listings are limited to those aspects of a device that have been tested. Tests are conducted in response to specific requests and contracts. Because the listing does not extend to all aspects or applications of a device does not necessarily mean that the device would not perform well in other applications; it may mean that the tests that would demonstrate effectiveness have not been requested or conducted.

With this hierarchy in mind, and based on the fact that the IBC/2006 clearly contemplates the installation of sidewall heads for exposed wood decking and describes installation techniques, it is the Department's opinion that the listing, or lack thereof, of sprinkler heads for this application is superseded by its inclusion in the code. The IBC/2006, which is the adopted Building Subcode, clearly specifies the installation details for sidewall heads in this application, so that a head listed for this type of protection is not required.

If you have questions on this issue, please contact the Code Assistance Unit at (609) 984-7609.

Source: John N. Terry
Supervisor, Code Assistance Unit

List of Registered Builders

In the past, the Bureau of Homeowner Protection periodically mailed a list of revoked or suspended new home builders to the local construction official. Because Internet access is virtually universal and because none of us needs more paper, this list will no longer be mailed. A list of registered builders is available on the Division of Codes and Standards' web site at:
http://www.nj.gov/dca/codes/newhome_warranty/pdf/brlist.pdf
Please consult this list to ensure that any new home builder applying for a permit to build a new house currently is registered and has given a valid registration number.

Should you have any questions about the status of a builder, please call the New Home Warranty Builder Registration Section at (609) 984-7910.

Source: Bureau of Homeowner Protection

Gravel or Stone on Roofs

Section 1504.8 of the 2006 International Building Code (IBC/2006) does not allow gravel or stone to be used on the roof of a building located in a hurricane-prone region, or on any other building with a mean roof height exceeding that which is allowed by Table 1504.8, based on the exposure category and basic wind speed at the building site.

So, how does this pertain to the State of New Jersey? Well, a "hurricane-prone region" is defined as an area vulnerable to hurricanes, such as the United States Atlantic Ocean coast, where the basic wind speed is greater than 90 miles per hour. Therefore, gravel or stone is not allowed on new roofs in the portions of New Jersey east of the 90-mph line (see map at right, excerpted from Bulletin No. 03-4). And, for those portions of New Jersey on the 90-mph line and west where gravel or stone is allowed, there are still constraints (maximum mean roof height and exposure category) based on the roof design from Table 1504.8.

If you have questions on this matter, you may contact me at (609) 984-7609.

Source: Rob Austin
Code Assistance Unit

Hard-Wired, Interconnected Smoke Alarms vs. Low-Voltage Smoke-Detection Systems

The discussion that will follow is best begun by repeating the code sections that have been generating so many questions:

Section R313.1 of the 2006 New Jersey International Residential Code (IRC/2006) states, "All smoke alarms shall be listed in accordance with UL 217, and installed in accordance with the provisions of this code and the household fire-warning equipment provisions of NFPA 72. Household fire-alarm systems installed in accordance with NFPA 72 that include smoke alarms, or a combination of smoke detector and audible notification device installed as required by this section for smoke alarms, shall be permitted. The household fire-alarm system shall provide the same level of smoke detection and alarm as required by this section for smoke alarms in the event the fire-alarm panel is removed or the system is not connected to a central station."

Section 907.2.10 of the 2006 New Jersey International Building Code (IBC/2006) states, "Listed single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with the provisions of this code and the household fire-warning equipment provisions of NFPA 72. Household fire-alarm systems installed in accordance with NFPA 72 that include smoke alarms, or a combination of smoke detector and audible notification device installed as required by this section for smoke alarms, shall be permitted. The household fire-alarm system shall provide the same level of smoke detection and alarm as required by this section for smoke alarms in the

event the fire-alarm panel is removed or the system is not connected to a central station."

So, what are the requirements of these sections?

- First, smoke alarms are required to be listed in accordance with UL 217.
- Second, the smoke alarms must be installed in accordance with the household fire-warning equipment provisions of National Fire Protection Association (NFPA) Standard 72 and the applicable code – IRC/2006 or IBC/2006.
- Third, low-voltage detection systems are permitted when they are installed in accordance with these code sections and the requirements of NFPA 72, household fire-alarm systems. When low-voltage systems are installed, they must provide the same level of protection as the smoke-alarm system if the fire-alarm panel is removed or the system is not connected to a central station.

Section R313.1 of the IRC/2006 and Section 907.2.10 of the IBC/2006 prohibit the use of low-voltage smoke-detection systems in lieu of hard-wired smoke alarms. Hard-wired, interconnected smoke alarms are required to be installed in all cases, unless the dwelling is large enough to require more than 12 smoke alarms.

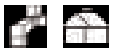
NFPA 72 prohibits more than 12 hard-wired, interconnected smoke alarms from being installed. In the case where a dwelling requires more than 12 smoke alarms to be installed, the Department of Community Affairs recommends that the fire subcode official require permit applicants to apply for a variation for the installation of a low-voltage smoke-detector system. A variation should not be granted on the basis that the owner or occupant *chooses* to install more than 12 smoke alarms; the fire subcode official should grant the variation only when the design of the building is such that it *requires* more than 12 smoke alarms.

Here is an example: A contractor is constructing a new two-story home with a basement and ten bedrooms. The contractor will need to apply for a variation for the installation of a low-voltage smoke-detection system. A house of this size will require 13 smoke alarms, at a minimum.

NOTE: Other alarm devices, such as heat detectors, audible notification devices, and carbon-monoxide alarms, shall not be counted into the total number of smoke-alarm devices to be installed. NFPA 72 allows up to 18 devices, but limits smoke alarms to 12 devices.

The Department is preparing a bulletin to provide guidance to code officials on when to grant a variation for the installation of a low-voltage smoke-detection system. Please check our web site for the bulletin.

Source: Michael E. Whalen
Code Assistance Unit

Impact Protection for Appliances Located in Private Garages 

What is the proper protection from motor vehicle impact for appliances located in a private garage? The 2006 International Residential Code (IRC/2006), Section G2408.3 contains an exception that directly addresses this question.

IRC/2006 Section G2408.3, Private Garages, states: "Appliances located in private garages shall be installed with a minimum clearance of 6 feet above the floor." The exception then states: "The requirements of the section shall not apply where the appliances are protected from motor vehicle impact and installed in accordance with Section G2408.2." Section G2408.2 requires that equipment and appliances that have an ignition source must be elevated to ensure the source of ignition is not less than 18 inches above the floor.

Therefore, if the equipment or appliance is located in a private garage, and the ignition source is elevated at least 18 inches above the floor and is protected from motor vehicle impact, the equipment or appliance does not have to be elevated a minimum of 6 feet above the floor.

Now for the larger question: What type of motor vehicle impact protection is required? The IRC is silent on this.

Although the IRC Commentary is not adopted for use in New Jersey, it can contain helpful information and guidance. In this case, the IRC Commentary recommends four ways to provide a means of protection. They are as follows:

1. Protected by walls of a room that extend from floor to ceiling;
2. Protected by guards made of concrete steel posts set in the floor, or flanged and bolted to the floor;
3. Protected by a platform or pad equivalent to vehicle "curb-stop" height; or
4. Protected by a concrete curb stop that is held in place with steel dowels.

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The code requires some type of protection to ensure that the protective device is hit before the equipment or appliance.

Because there is no cross-reference in the IRC to the 2006 International Fire Code Section 312, which addresses impact protection, it is recommended that any one of the four items listed above be used as a means to provide motor vehicle protection in a private garage.

Should you have any questions, you may contact me at (609) 984-7609.

Source: Thomas C. Pitcherello
Code Assistance Unit

Licensed Professional Contractors

The Division of Codes and Standards has had several meetings with the New Jersey State League of Master Plumbers, Inc. concerning the enforcement of plumbing licenses and all the professional licensed trades. The League has asked us to provide guidance to code officials concerning unlicensed individuals working under the Uniform Construction Code. This occurs more often than not, specifically relating to homeowners doing their own work. Many homeowners are persuaded by an unskilled handyman that it would be too costly to hire a licensed professional.

The reality is that the handyman has no formal training, has not passed tests, and does not attend code update seminars. He may not have insurance and, generally speaking, does not provide the homeowner with a contract. If the homeowner has a problem with the handyman (who, once on the job, may not be very handy), there is no State agency to turn to for assistance.

Hiring a licensed professional protects the homeowner and, in the long run, may save money because the quality of work is superior.

Now, can homeowners be helped when confronting this situation?

- If a homeowner states that he is going to do his own plumbing and/or electrical work, make sure he understands he must actually perform the work and may not simply supervise it.
- Make sure that the homeowner signs and dates the certification. Explain that the homeowner is accepting full responsibility for any violation that may be uncovered, but that hiring a licensed professional shifts that responsibility onto the contractor.

What's the next step? What if we discover unlicensed contractors working on a construction site?

- Issue a Stop Work Order. This is our tool to gain compliance. Once the job is stopped, the general contractor or homeowner will be sure to have a licensed professional on the job site.
- Report the unlicensed contractor to the appropriate Division of Consumer Affairs' licensing board. Make sure the complaint is in writing. Do not just pick up the telephone and call; action will not be taken based on just a phone call.

Finally, once a year, every building department should request a copy of the current license from each contractor. This will not only prevent issuing permits to a contractor whose license has expired, it will also help to curb the use of false documents, including falsified raised seals.

If you have any questions, please contact me at (609) 984-7672.

Source: Louis J. Mraw
Supervisor, Office of Regulatory Affairs

Mixed Occupancies – How to Separate per IBC/2006

For those of you looking for the occupancy separation table from the 2000 International Building Code (IBC) in Chapter 3, it is now is Chapter 5 of the IBC/2006, specifically Section 508.3.3.

Mixed occupancies are covered in Section 508.3 of the IBC/2006 where it states, "Each portion of a building shall be individually classified in accordance with Section 302.1. Where a building contains more than one occupancy group, the building or portion thereof shall comply with Sections 508.3.1 (accessory occupancies), 508.3.2 (non-separated occupancies), 508.3.3 (separated occupancies), or a combination of these sections." Since the criteria really hasn't changed for accessory occupancies and non-separated occupancies, this article will focus only on the separated occupancies. For starters, please take a look at Table 508.3.3 below; you'll notice the letter "N" for no separation requirement. You may be scratching your head as to why, because this is not the same application as the IBC/2000; yes, the IBC/2006 is different!

TABLE 508.3.3
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

OCCUPANCY	A[a], E		I		R[d]		F-2, S-2[c,d], U[d]		B[b], F-1, M[b], S-1		H-1		H-2		H-3, H-4, H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
A[a], E[e]	N	N	1	2	1	2	N	1	1	2	NP	NP	3	4	2	3[a]
I	—	—	N	N	1	NP	1	2	1	2	NP	NP	3	NP	2	NP
R[d]	—	—	—	—	N	N	1	2	1	2	NP	NP	3	NP	2	NP
F-2, S-2[c,d], U[d]	—	—	—	—	—	—	N	N	1	2	NP	NP	3	4	2	3[a]
B[b], F-1, M[b], S-1	—	—	—	—	—	—	—	—	N	N	NP	NP	2	3	1	2[a]
H-1	—	—	—	—	—	—	—	—	—	—	N	NP	NP	NP	NP	NP
H-2	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	1	NP
H-3, H-4, H-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP

For SI: 1 square foot = 0.0929 m^2.
S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
N = No separation requirement.
NP = Not permitted.
a. For Group H-5 occupancies, see Section 903.2.4.2.
b. Occupancy separation need not be provided for storage areas within Groups B and M if the:
   1. Area is less than 10 percent of the floor area;
   2. Area is equipped with an automatic fire-extinguishing system and is less than 3,000 square feet; or
   3. Area is less than 1,000 square feet.
c. Areas used only for private or pleasure vehicles shall be allowed to reduce separation by 1 hour.
d. See Section 406.1.4.
e. Commercial kitchens need not be separated from the restaurant seating areas that they serve.

Step 1 – Occupancy Classification: Classify each occupancy in accordance with Section 302.1. Please keep in mind that the ***fire area**** of each occupancy is to comply with the IBC/2006 based on the classification of that portion of the building.

*Fire Area - The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls, or fire-resistance-rated horizontal assemblies of a building.

Step 2 – Allowable Area: For each story, perform a simple calculation of areas to be such that the sum of the ratios of the actual floor area of each occupancy, divided by the allowable area of each occupancy, shall not exceed one.

$$\frac{\text{Actual Area A}}{\text{Allowable Area A}} + \frac{\text{Actual Area B}}{\text{Allowable Area B}} = 1 \text{ or less}$$

Step 3 – Allowable Height: The height limitations for each occupancy shall not exceed Table 503, based on the type of construction of the building. The height, in both feet and stories, of each ***fire area**** shall be measured from grade plane; this measurement shall include the height, in both feet and stories, of intervening fire areas.

Step 4 – Separation: Occupancies are to be separated from adjacent occupancies, in accordance with Table 508.3.3.

Step 5 – Construction: If a rated separation(s) is required, the separation(s) shall be a fire barrier(s) constructed in accordance with Section 706, or horizontal assemblies constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies.

You will have noticed that the references to “fire area” are bolded, italicized, and defined above. This is to call attention to the fact that Section/Table 508.3.3 may not be the only reason for a separation. For example, automatic suppression systems (from Section 903) rely on fire area as trigger for their installation. Therefore, with the possibility of a fire barrier/horizontal assembly no longer required, this could increase your fire area and, in turn, require an automatic sprinkler system.

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An example applying Section 508.3.3 might help: Consider a one-story (with basement), Type VA construction building of moderate hazard storage of 4,651 square feet (basement) and office space of 9,967 square feet (1st floor), for a building total of 14,618 square feet.

Step 1: Moderate hazard storage – Group S-1; Office Space – Group B

Step 2: Table 503 for VA construction = S-1 – 14,000 s.f.; B – 18,000 s.f.

$$\frac{4,651}{14,000} + \frac{9,967}{18,000} = 0.886$$

Step 3: (Height not given for example.)

Step 4: Since the calculation from Step 2 is less than one, and Table 508.3.3 requires no separation (when one or less), Step 5 for the construction of a fire barrier is not required. However, it is important to note that you must apply the most restrictive provisions of each occupancy; the fire area is now 14,618 square feet without a separation and Section 903.2.8 (Group S-1) of the IBC/2006 would require an automatic sprinkler system throughout the building (fire area over 12,000 square feet).

Lastly, if the above example was a low-hazard storage (Group S-2), then a separation would be required by Table 508.3.3 regardless of calculations (non-separated occupancies would still be an option).

If you have any questions on this matter, you may contact me at (609) 984-7609.

Source: Rob Austin
Code Assistance Unit

Multiple Permits for Multiple Dwellings Means Multiple Mistakes

There's an old adage that says, "Believe none of what you hear and half of what you see." It also might say, "Question what you read." Not long ago, the Census Bureau said a New Jersey municipality issued building permits for over 1,500 new houses. Let's call this place Anytown Township. The real number was considerably less, not even one-tenth of the amount reported by the Federal agency.

What happened? The construction official made a mistake that others have made. He issued multiple permits for multiple dwellings and, in the process, made multiple mistakes. Don't do what Anytown did.

The official wanted to authorize permits for three new apartment buildings, each with 24 units. Instead of three permits (one for each building), he issued 72 permits (one for each apartment). Each unit got its own building permit with its own permit number. The construction cost of each building, its area, volume, and related fees were split among 72 permits. The construction official was meticulous. He divided almost everything to get the correct figures for each permit. Almost everything. His only mistake was to repeat the total number of units in each building (24) on every permit. Instead of 72 new dwellings, he reported 1,728. The Census Bureau thinks there is a housing boom in Anytown. So does anyone who uses this data.

The real mistake was to divide the buildings into parts in the first place. Anytown should have issued three building permits (one for each building), not 72 permits (one for each unit). Other towns make this same mistake every month.

These mistakes are onerous because they are hard to detect. They divide an error into multiple, usually smaller, parts. It takes time for these small parts to reach critical mass for detection. Further, when such mistakes occur, they are difficult to fix because each permit must be corrected, both by the office that issued them and by the Department of Community Affairs where this information is sent. It is a lot easier to fix three permits than to fix 72.

What happened in Anytown is not an isolated case. Over one-fourth of the State's population lives in multiple dwellings. In 1997, about 15 percent of the housing units authorized by permits were in buildings with three or more units. In 2007, the proportion is about 45 percent.

Why do construction officials issue multiple permits for multiple units? Some do it for record-keeping purposes: to track what needs to be done, where, and when. Separate permits are issued to provide a record of what is inspected — the plumbing code violations in apartment 3D or the

electrical violations in 12B.

A more common reason cited for condominiums and other for-sale dwellings is that new home warranty companies and banks require them to do so. Banks and warranty companies are reluctant to insure or finance the sale of condominiums without a Certificate of Occupancy (CO) for each unit in a multifamily building. Today's multifamily buildings are complex. They are built over long periods of time and occupied in phases over months, even years. An easy way to generate these COs is with a separate permit for each unit.

Some construction offices issue separate permits for the common area of multifamily buildings, as well as permits for each dwelling in these buildings. They take great pains to divide the building into distinct parts. Despite this effort, mistakes occur. Because these buildings are built over time, construction offices forget they reported one or more units on the permit for the common area and then report them again on the permits for the individual dwellings. This overstates the number of authorized dwellings in the municipality, a critical construction indicator -- one that is used to determine affordable housing obligations.

The Uniform Construction Code is clear about permits for multifamily buildings. These buildings may be built and occupied in phases, as life-safety requirements of the code are met. *N.J.A.C.* 5:23-2.23 allows for occupancy in a multifamily building as long as the dwelling units in that building and the common area that serves those dwellings are safe prior to the entire building's completion. Banks and warranty companies must realize that people can move into and live in buildings that are not finished. The best way to report such buildings is to issue one permit for the entire structure. Temporary Certificates of Occupancy (TCOs) follow, as dwellings in the building are completed and ready for occupancy. These units are reported on the TCOs as they are issued, usually in phases, as the dwellings are completed. Take care not to repeat or over-count important features of the building on the TCOs, like the number of units, its construction costs, or area. Don't issue multiple permits for multiple dwellings. It often leads to multiple mistakes.

Source: John Lago
Division of Codes and Standards

Oil-Burner Safety Devices and Controls

Recently, the Department of Community Affairs has received some questions on whether there are requirements for a means to manually stop the flow of oil to the burner.

N.J.A.C. 5:23-3.20(b)3.iii, Section 301.16 of the International Mechanical Code, and *N.J.A.C.* 5:23-3.21(c)10.i, Section M1307.5 of the International Residential Code, require safety devices and controls for oil burners. These sections require that a means of manually stopping the flow of oil to the burner be provided. The device or devices are required to be placed in a readily accessible location that is a minimum of ten feet from the burner. Where there is electrically driven equipment, an identified switch in the burner supply circuit is required to be provided at the entrance to the room or area where the appliance is located. For equipment that is located in basements, the switch is required to be located at the top of the stairs that lead to the basement.

These code sections also state that an identifiable valve in the oil-supply line that is operable from a minimum of ten feet from the burner must be used for other than electrically driven or controlled equipment.

In short:

- If the burner is electrically driven, an identifiable switch is required and an identifiable valve is not required.
- For nonelectrically driven equipment, an identifiable valve must be installed and must be located a minimum of ten feet from the burner.

Should you have any questions, you may contact me at (609) 984-7609.

Source: Thomas C. Pitcherello
Code Assistance Unit

Precast Foundation Wall Panel

It has come to the Department of Community Affairs' attention that construction plans for precast foundation wall panel construction are being submitted without being signed and sealed by a design professional, and the construction plans are not drawn to any scale.

N.J.A.C. 5:23-4.26 deals with the certification of building elements. The requirements are as follows:

(a) Building elements shall be certified in accordance with the following provisions:

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1. Building elements such as fire walls, fire-separation walls, **wall panels**, prestressed/ prefabricated floor or roof panels, and pre-engineered structural frames, built in accordance with the New Jersey Uniform Construction Code, may be approved by any of the following options:

   i. *Approval for both design and construction by a nationally recognized laboratory or a product certification agency* The municipal subcode official has the authority to accept such approvals based on the evidence, test, and/or documentation presented to him or her.

   ii. *Approval for both design and construction by a professional engineer licensed either in the State of New Jersey or in the state of manufacture* The municipal subcode official has the authority to accept such approvals based on the evidence, of test and/or documentation, presented to him or her.

N.J.A.C. 5:23-2.15(f) requires that the application for the permit must be accompanied by no fewer than two copies of specifications and of plans **drawn to scale**, with sufficient clarity and detail dimensions to show the nature and character of the work to be performed. Plans submitted shall be required to show only such detail and include only such information as shall be necessary to demonstrate compliance with the requirements of the code and these regulations, or to facilitate inspections for code conformity. When quality of materials is essential for conformity to the regulations, specific information shall be given to establish such quality. In addition, this code shall not be cited, or the term "legal" or its equivalent be used, as a substitute for specific information.

Therefore, as per *N.J.A.C.* 5:23-2.15(f), all construction documents submitted for review must be drawn to scale. Furthermore, as per *N.J.A.C.* 5:23-4.26, the owner or his representative can submit evidence, testing, or documentation for both design and construction by a nationally recognized laboratory, a product certification agency, or a professional engineer licensed either in the State of New Jersey or in the state of manufacture. Examples of product certification are the International Code Council Evaluation Service Reports: ESR 1553 and ESR 1662.

If you have any questions on this, please direct your calls to me at (609) 984-7609.

Source: Marcel Iglesias
Code Assistance Unit

Price Increases for UCC

Please be advised that increased production costs have made it necessary to raise the price for new Uniform Construction Code books to $55 (formerly $40). In addition, the subscription service price will be going up to $50 (previously $35).

These price increases will be effective with the new fiscal year, which begins July 1, 2008. Thank you for your understanding.

Source: Mary Ellen Handelman
Office of Planning and Operations

Public and Common Area Visible Alarms

Some questions have been coming in recently about where visible alarm devices are required to be installed. Visible alarms must be installed in accordance with the 2006 International Building Code (IBC/2006), New Jersey edition. Section 907.9.1 requires that visible alarms comply with Section 907.9.1.1, Public and Common Areas, which simply states that alarms are required in public and common areas.

Now to address the area of confusion: What is considered a public or common area? Section 1102.1 of the IBC/2006, Definitions, has a very good definition of "Public Use Areas." Public Use Areas is defined as interior or exterior rooms or spaces that are made available to the general public. This definition should be used to determine the required location of visible alarm devices in accordance with the Building Subcode, specifically with IBC/2006, Section 907.9.1.1. Some examples of spaces available to the general public are: conference rooms, lobbies, restrooms outside an individual private office space, and classrooms. Public and common spaces are located in both publicly and privately owned buildings, so Section 907.9.1.1 must be applied in both.

If you have any questions, please feel free to call me at (609) 984-7609.

Source: Michael E. Whalen
Code Assistance Unit

Ramps in the IRC/2006

The 2006 International Residential Code (IRC/2006) was adopted February 20, 2007 at *N.J.A.C.* 5:23-3.21. Upon adoption, the maximum slope requirement for a ramp (Section R311.6.1) was inadvertently deleted from the IRC/2006. Subsequently, because one- and two-family dwellings are not covered by the Barrier Free Subcode, it was discovered that the code had a gap — there was no scoping for ramps installed at one- and two-family dwellings or townhouses. This was not the Department of Community Affairs' intent. The Department has corrected this error: effective April 7, 2008, the deletion was deleted and Section R311.6.1 was adopted. For your convenience, the language follows:

> **Section R311.6.1, Maximum Slope:** Ramps shall have a maximum slope of 1 unit vertical in 12 units horizontal (8.3 percent slope).
>
> **Exception:** Where it is technically infeasible to comply because of site constraints, ramps may have a maximum slope of 1 unit vertical in 8 units horizontal (12.5 percent slope).

If you have any questions on this matter, please contact me at (609) 984-7609.

Source: Rob Austin
Code Assistance Unit

Requirements for Supplemental Smoke Detector or Heat Detector Installations for International Residential Code Dwellings

The Department of Community Affairs has received calls from contractors and code officials concerning permit requirements and inspection responsibilities for the installation of non-required, supplemental burglar-/fire-alarm systems.

Some questions that have been asked are: What type of permit is required? What code requirements apply to the installation? Can one device be installed to cover the entire dwelling and what type of device can be installed? What is the appropriate code reference in the Uniform Construction Code (UCC)?

A contractor installing supplemental equipment in a dwelling that already has a required system installed must comply with *N.J.S.A.* 45:5A-18 et seq. This is more specifically spelled out at *N.J.A.C.* 5:23-2.15(b)7. The license number of the contractor must be on the permit application. This section requires a certification permit from the Division of Fire Safety, an Individual Alarm Installer's License issued by the Board of Examiners of Electrical Contractors, or a New Jersey licensed electrical contractor. The applicant must apply for a permit for electrical work only. Remember, this is a supplemental system for a dwelling being constructed under the International Residential Code, not a required system. When a system is being installed in an International Building Code structure, the system would need to follow the requirements of Section 901.2. This section requires that only the work being performed needs to comply with the provisions of the code.

National Fire Protection Association (NFPA) Standard 72, the Household Fire-Alarm Systems standard, and the manufacturer's installation instructions must be followed for the location and wiring of the detector(s). Section 760 of the 2005 National Electrical Code (NEC/2005) must also be followed for the installation of the wiring and the circuit supplying power.

Just because someone wishes to install a supplemental system doesn't mean they need to install a complete system throughout the dwelling. If the applicant is voluntarily installing a low-voltage system and wishes to install one detector on each floor or one detector on the main floor, there are no code requirements to install them anywhere other than where they wish to install them.

The UCC at *N.J.A.C.* 5:23-6.6(i) requires that materials and methods meet code requirements. *N.J.A.C.* 5:23-6.8(d)8 requires that all of Chapter 7 of the NEC/2005 be followed, specifically in this case Article 760, Fire-Alarm Systems. This article references the 2002 edition of NFPA 72 for installation.

So, in short, an electrical permit is required; a fire permit is not required. The contractor/homeowner can test all the equipment installed in the presence of the electrical inspector. The installer can install any devices, as long as they are installed in accordance with the above-referenced codes and the manufacturer's installation instructions. Remember, this is not a required system; it is supplemental.

Source: Michael E. Whalen
Code Assistance Unit

Seismic Design Requirements for Fire-Protection Systems

There have been numerous inquiries as to the applicability of the seismic requirements with respect to fire-protection systems. The fire-protection system is considered a nonstructural component as per Chapter 16, Structural Design, of the 2006 International Building Code (IBC/2006).

Specifically, Section 1613, Earthquake Loads, addresses earthquake loads as follows: "All components that are permanently attached to structures and their supports and attachments shall be designed and constructed to resist the effects of earthquake motions in accordance with ASCE 7," which is adopted by reference in Chapter 35.

Chapter 13 of ASCE 7, Seismic Design Requirements for Nonstructural Components, establishes the minimum criteria for nonstructural components that are permanently attached to structures, and the minimum criteria for their supports and attachments. Nonstructural components are architectural, mechanical, and electrical components. A fire-suppression system's piping is considered a mechanical component.

Section 13.1.4 of ASCE 7, Exceptions, provides a list of the nonstructural components that are exempt from the seismic requirements. The exemptions are based on seismic design category and importance factor.

All mechanical components in Seismic Design Categories A and B are exempt. There are other components that are exempt in Seismic Design Categories C, D, E, and F, but there are additional criteria that must be met. Examples of additional criteria are: importance factor, flexible connections, component weight, and the height at which the components are mounted.

The requirements for Seismic Design Category C for fire-protection systems are found in Section 13.6.8.2 of ASCE 7. This section references National Fire Protection Association (NFPA) Standard 13 (2002 edition) for the design of the fire-protection sprinkler system's lateral supports.

The requirements for Seismic Design Categories D, E, and F for fire-protection systems are found in Section 13.6.8.3 of ASCE 7. Structures assigned to Seismic Design Categories D, E, or F must comply with the following requirements:

1. The hangers and sway bracing of the fire-protection systems must be deemed to meet the requirements of this section when both of the following requirements are satisfied:
   a. The hanger and sway bracing are designed and constructed in accordance with NFPA 13, and
   b. The force and displacement requirements of Section 13.3.1 and 13.3.2 are satisfied.
2. The fire-protection system piping itself must meet the force and displacement requirements of Section 13.3.1 and 13.3.2.
3. The design strength of the fire-protection system piping for seismic loads, in combination with other service loads and appropriate environmental effects, must be based on the following material properties:
   a. For piping and components constructed with ductile materials (e.g., steel, aluminum, or copper), 90 percent of the minimum specified yield strength.
   b. For threaded connections in components constructed with ductile materials, 70 percent of the minimum specified yield strength.
   c. For piping and components constructed with non-ductile materials (e.g., plastic, cast iron, or ceramics), 10 percent of the material minimum specified tensile strength.

When performing plan review, the code official is responsible for verifying that the seismic design category of a building is indicated on the construction documents submitted for review. The seismic design category indicated on the construction documents submitted by the design professional responsible for the fire-protection system must be identical to the one submitted by the design professional responsible for the design of the building. The fire-protection system must then be designed to the building's seismic design category.

If you have any questions on this, please direct your calls to me at (609) 984-7609.

Source: Marcel Iglesias
Code Assistance Unit

Sunrooms and the Energy Subcode

The 2006 International Energy Conservation Code (IECC/2006) recognizes that sunrooms are difficult when it comes to compliance, especially when a sunroom is an addition (i.e., not calculated into the original home's overall thermal design of the building envelope). Therefore, the IECC/2006 prescribes ways to make a "thermally isolated sunroom."

The IECC/2006 defines a "sunroom" as: "A one-story structure attached to a dwelling with a glazing area in excess of 40 percent of the gross area of the structure's exterior walls and roof." It then defines "thermal isolation" as: "Physical and space conditioning separation from conditioned space(s). The conditioned space(s) shall be controlled as a separate zone for heating and cooling, or conditioned by separate equipment."

Moving past the definitions, Section 402.2.10 of the IECC/2006, Thermally Isolated Sunroom Insulation, states: "The minimum ceiling insulation R-values shall be R-19 in HDD 4500-5499 and R-24 in HDD 5500-6499. The minimum wall R-value shall be R-13 in all zones. A new wall(s) separating a sunroom from conditioned space shall meet the building thermal envelope requirements." Section 402.3.5, Thermally Isolated Sunroom U-Factor, states: "The maximum fenestration U-factor shall be 0.50 and the maximum skylight U-factor shall be 0.75. New windows and doors separating the sunroom from conditioned space shall meet the building thermal envelope requirements." Following is the breakdown of the referenced sections:

- **Ceiling Insulation**
  - HDD 4500-5499 -- R-19
  - HDD 5500-6499 -- R-24
- **Fenestration U-Factor**
  - All HDD 0.50
- **Wall Insulation**
  - All HDD R-13
- **Skylight U-Factor**
  - All HDD 0.75

Note that this is truly an exception for sunrooms that would be traditionally open to the rest of the home.

If you have any questions on this matter, please contact me at (609) 984-7609.

Source: Rob Austin
Code Assistance Unit

The Type III Construction Question

Section 602.3 of the 2006 International Building Code (IBC/2006), as modified by *N.J.A.C.* 5:23-3.14(b)7.ii, states: "Type III construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of any material permitted by this code."

Formal Technical Opinion 14 (FTO-14) further explains the intent of Section 602.3. Type III construction requires exterior walls to have similar structural properties to concrete (cast in place or precast) and concrete masonry units such as brick, stone, or glass block. (NOTE: FTO-14 was updated as recently as October 2007 – please visit our web site at http://www.nj.gov/dca/codes for the latest version.)

However, if you are still having difficulties, a further breakdown follows: If all masonry exterior walls (load bearing or non-load bearing) are used, the building is Type III construction. The rest of the building may be constructed of any material allowed by the IBC/2006.

If you have any questions on this matter, you may contact me at (609) 984-7609.

Source: Rob Austin
Code Assistance Unit

New Jersey Register Adoptions

Date: December 17, 2007
Adoption: 39 *NJR* 5211(a)
Summary: The adopted amendment at *N.J.A.C.* 5:23-1.4 corrects cross-references.

The adopted amendment at *N.J.A.C.* 5:23-3.14 revises Table 307.1(2) of the Building Subcode, entitled "Maximum Allowable Quantity per Control Area of Hazardous Materials Posing a Health Hazard," to insert quantities for storage, use-closed systems, and use-open systems for radioactive materials.

The adopted amendment at *N.J.A.C.* 5:23-3.16 adds accessory buildings or structures of one- and two-family dwellings to the uses allowed for Type NM, Type NMC, and Type NMA cables.

The adopted amendment at *N.J.A.C.* 5:23-3.21 revises Section M2201.2 of the One- and Two-Family Dwelling Subcode, entitled "Above-Ground Tanks," to eliminate the 660-gallon restriction on the amount of fuel oil that can be stored outside of a building.

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The adopted amendment at *N.J.A.C.* 5:23-4.3A provides that Class 2 agencies shall be allowed to perform plan review for Group R-4 occupancies (therapeutic residences). The adopted amendment at *N.J.A.C.* 5:23-1.4 includes companion changes to update cross-references in the definitions of "Class I Structure," "Class II Structure," and "Class III Structure."

The adopted amendment at *N.J.A.C.* 5:23-4.20 changes the Department of Community Affairs' flat fee for electrical inspection of a private swimming pool, spa, hot tub, or fountain from $46 to $55.

The adopted amendment at *N.J.A.C.* 5:23-5.5 applies the three-year prohibition period before reapplication for licensure that currently applies, as per *N.J.A.C.* 5:23-5.21(g)1 in cases where there has been a revocation, to cases in which an application was previously denied for a reason that would justify revocation.

The adopted amendment at *N.J.A.C.* 5:23-7.11 requires a bathroom on each accessible route in occupancies of Group R-1 containing six or more guest rooms. In addition, the adopted amendment at *N.J.A.C.* 5:23-7.12 specifies that, where multiple examination rooms serve a common medical office area, five percent of medical examination rooms shall be accessible, but not less than one. Finally, the adopted amendment at *N.J.A.C.* 5:23-7.13 corrects a reference to Group A-4, changing it to Group A-3.

Date: March 3, 2008
Adoption: 40 *NJR* 1084(a)
Summary: The adopted amendments at *N.J.A.C.* 5:23-2.15 and 5:23-3.14, and adopted new rule at *N.J.A.C.* 5:23-2.34 provide protection to the owners and occupants of structures that adjoin properties on which construction is being undertaken.

Date: May 5, 2008
Adoption: 40 *NJR* 2229(a)
Summary: The adopted amendments at *N.J.A.C.* 5:23-3.4 update – and in some instances revise – the assignment of enforcement responsibilities for the Building, Plumbing, Energy, Mechanical, One- and Two-Family Dwelling, and Fuel Gas Subcodes of the Uniform Construction Code. In addition, the adopted amendments assign enforcement responsibilities for new code sections in the subcodes.

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State of New Jersey
Jon S. Corzine, Governor

Department of Community Affairs
Joseph V. Doria, Jr., Commissioner

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Statewide Nonresidential Development Fee Act

On July 17, 2008, Governor Jon Corzine signed into law the Statewide Nonresidential Development Fee Act, which impacts all construction permits issued under the Uniform Construction Code for nonresidential new construction or improvements where the work type is "new" or "addition" and the group designation is other than a residential group.

The Act, which took effect immediately upon signing, establishes a new statewide nonresidential development fee to be charged by all municipalities for nonresidential new construction or additions. The fee of 2.5 percent of the equalized assessed value of nonresidential development is determined by the tax assessor and must be paid by the developer prior to the issuance of a Certificate of Occupancy. The Act provides for limited exemptions from the 2.5 percent fee.

Under this Act, the following categories of buildings are exempt from the nonresidential development fee: 1) all nonresidential construction of buildings or structures on property used by churches, synagogues, mosques, and other houses of worship; 2) property used for nonprofit educational purposes; 3) parking lots and parking structures; 4) any nonresidential development which is an amenity to be made available to the public, including but not limited to recreational facilities, community centers, and senior centers; 5) nonresidential construction resulting from a relocation of, or an onsite improvement to, a nonprofit hospital or a nursing-home facility; 6) projects located within transit hubs; 7) transit hub-light rail projects; and 8) projects consistent with transit village plans.

The Act allows a municipality under the jurisdiction of the Council on Affordable Housing (COAH) pursuant to the Fair Housing Act to retain the nonresidential development fees collected in accordance with COAH's regulations and the law for deposit into the municipality's Affordable Housing Trust Fund. In all other municipalities that are not under COAH's jurisdiction, the fees are to be paid to the State of New Jersey. A list of municipalities under COAH's jurisdiction may be found on COAH's website at:

http://www.state.nj.us/dca/coah/legislation.shtml

Note: **Where payment is to be made to the State of New Jersey, it must now be made through the Department of the Treasury, Division of Revenue's website at http://www.state.nj.us/njbgs/nrdf.htm. Payment may be made by electronic check or by credit card. A convenience fee applies for all payments made by credit card. Once payment is made, a Certificate of Payment of Nonresidential Fee will be generated as proof of payment. A developer must present a construction official with the proof of payment in order to receive a Certificate of Occupancy. If a developer is eligible for a reduced fee or is claiming a credit, payment must be made to the Department of Community**

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In This Issue

BUILDING SAFETY CONFERENCE
Another Adventure, New Venue

The New Jersey Building Safety Conference was held this year from April 30 through May 2 at the Trump Taj Mahal in Atlantic City. It was like meeting an old friend! Many of you remember that the Building Safety Conferences were held at the Taj Mahal in the early 1990s. The Taj has many large and spacious training rooms, and VERY long hallways. We had 12 seminars on the first day and 14 on the second. All were very well received by our inspectors. The Crackerbarrel on the evening of the first night had 43 tables with varied topics of interest.

Our theme this year was "Building Safety: Where You Live, Work, and Play." Special guests at the Inspector of the Year luncheon were the Commissioner of the Department of Community Affairs, Joseph V. Doria, Jr., and the Director of the Division of Codes and Standards, Cynthia A. Wilk. Together, they, along with the organization presidents, presented awards. Those who were honored for their accomplishments were:

Municipal Electrical Inspectors Association of New Jersey
Electrical Inspector of the Year
Michael Jahn

New Jersey Fire Prevention and Protection Association
Fire Protection Inspector of the Year
Richard M. Barbarise

New Jersey State Plumbing Inspectors Association
Plumbing Inspector of the Year
William D. Olinger

Building Officials Association of New Jersey
Building Inspector of the Year
Robert B. LaCosta

New Jersey Association of Technical Assistants
Technical Assistant of the Year
Rosalind Bosserdet

Conferences like this provide a chance for networking; they also foster fellowship among our peers. The reception to honor the awardees gives all inspectors a chance to offer their congratulations to the awardees. The gathering had good food and very lively entertainment! The Fabulous Greaseband provided music from the '60s and '70s. The evening concluded with a new feature — a dessert bar.

The Building Safety Week Conference is a nice break from our normal routine and gives us a chance to be brought up to date by taking advantage of educational opportunities. Now we are looking forward to next year. We will meet again at the Taj Mahal, May 6-8. Plan to attend!

Source: Susan McLaughlin (Retired)

NOTE: This is Susan McLaughlin's last article for the Construction Code Communicator. *Susan retired effective August 1. Thank you, Susan, for all your work managing the Education Unit and ensuring top-notch continuing education for New Jersey's code officials. Enjoy your retirement, Susan; you've earned it!*

The *Construction Code Communicator* is published three times a year by the New Jersey Department of Community Affairs. Editor: Emily Templeton. Layout and design: Mary Ellen Handelman. Address: Division of Codes and Standards, New Jersey Department of Community Affairs, 101 South Broad Street, Post Office Box 802, Trenton, New Jersey 08625-0802. Address changes and subscription requests may be directed to the *Publications Unit*. Comments and suggestions should be sent to the attention of the *Code Development Unit*.

Left to right: Cynthia A. Wilk, Director; Victor Timpanaro, Municipal Electrical Inspectors Association of New Jersey; Michael Jahn, Electrical Inspector of the Year; Joseph V. Doria, Jr., Commissioner

Left to right: Cynthia A. Wilk, Director; Francis X. Donovan, Past President and founding member of the New Jersey Fire Prevention and Protection Association; Art Londensky, President of the New Jersey Fire Prevention and Protection Association; Richard Barbarise, Fire Protection Inspector of the Year; Joseph V. Doria, Jr., Commissioner

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Left to right: Cynthia A. Wilk, Director; Thomas McGonigle, New Jersey State Plumbing Inspectors Association; William Olinger, Plumbing Inspector of the Year; Joseph V. Doria, Jr., Commissioner

Left to right: Cynthia A. Wilk, Director; Martin Vogt, Building Officials Association of New Jersey; Robert LaCosta, Building Inspector of the Year; Joseph V. Doria, Jr., Commissioner

Left to right: Cynthia A. Wilk, Director; Brenda Sirkis, New Jersey Association of Technical Assistants; Rosalind Bosserdet, Technical Assistant of the Year; Joseph V. Doria, Jr., Commissioner

New Jersey Licensed Master Plumbers and Home Improvement Contractor Registrations

Is a New Jersey Licensed Master Plumber required to have a Home Improvement Contractor Registration to install gas piping, hydronic heating piping, boilers, and warm-air heaters?

Based on the minutes from two public meetings held at the New Jersey State Board of Examiners of Master Plumbers on July 26 and September 27, 2007, and on communication between the Department of Community Affairs and the Division of Consumer Affairs, the Board of Master Plumbers has determined that a New Jersey Licensed Master Plumber can perform this work without also possessing a Home Improvement Contractor Registration.

Therefore, if a New Jersey Licensed Master Plumber applies for a permit to install any of the above items, a permit shall be issued to the plumbing contractor without possessing a Home Improvement Contractor Registration.

Should you have any questions, you may contact me at (609) 984-7609.

Source: Thomas C. Pitcherello
Code Assistance Unit

Numeric or Roman, It All Has To Do With Class!

The Code Assistance Unit has received a multitude of questions regarding the classification of a building/structure . . . not occupancy group, not construction type, but the building classification. Two sections should be reviewed when the Uniform Construction Code refers to a building classification of Class 1 (I), Class 2 (II), or Class 3 (III): *N.J.A.C.* 5:23-2.15(f)1.vii, Plans; and *N.J.A.C.* 5:23-4.3A(d), Enforcing Agency Classification.

Both of these sections must be consulted when submitting plans. *N.J.A.C.* 5:23-2.15(f)1.vii requires all engineering plans and computations to bear the seal and signature of the licensed engineer or registered architect responsible for the design. However, there are three exceptions to this rule [*N.J.A.C.* 5:23-2.15(f)1.vii(1)]:

1. Plumbing plans for Class III structures may be prepared by persons licensed pursuant to the Master Plumber Licensing Act (The State Plumbing Licensing Law of 1968, *N.J.S.A.* 45:14C-1 et seq.);
2. Electrical plans for Class III structures may be prepared by persons licensed pursuant to The Electrical Contractors Licensing Act of 1962, *N.J.S.A.* 45:5A-1 et seq.;
3. Mechanical plans for Class III structures may be prepared by mechanical contractors.

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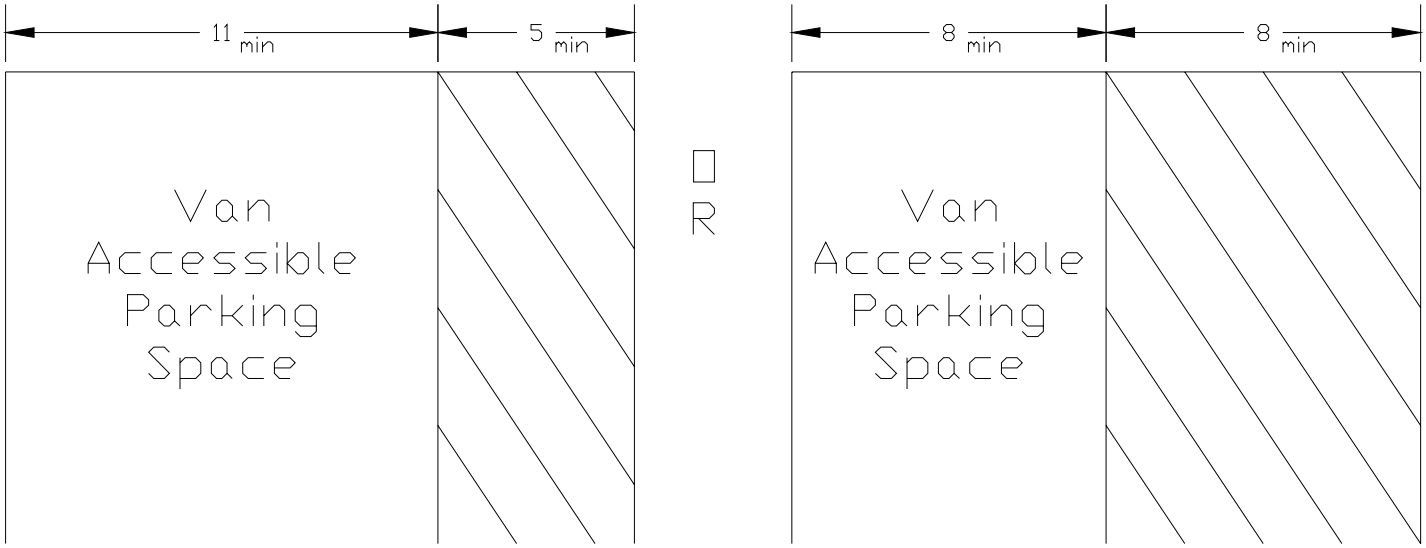
Van-Accessible Parking Space Dimensions

As we all know, *N.J.A.C.* 5:23-7.10(a)2 requires that, for every eight accessible parking spaces or fraction thereof, at least one must be a van-accessible parking space. The dimensions of accessible parking spaces are provided at Section 502.2 of the International Code Council/American National Standards Institute (ICC/ANSI) Standard A117.1-2003. Please note that the configuration of the accessible van spaces has changed with the adoption of ICC/ANSI A117.1-2003. The standard configuration for a van space is now 11-feet wide (132 inches), with a 5-foot (60-inch) -wide access aisle. The 8-foot-wide (96-inch) space with an 8-foot (96-inch) -wide access aisle is also allowed. A design professional may specify either of the two van space configurations and the code official must accept the one specified.



Note: When garage parking is subject to *N.J.A.C.* 5:23-7.10(a)2, a minimum vertical clearance of 98 inches is required for vans per Section 502.6 of ICC/ANSI A117.1-2003.

If you have any questions on this matter, please contact me at (609) 984-7609.

Source: Rob Austin
Code Assistance Unit

Residential In-Ground Pools

In Appendix G of the 2006 International Residential Code (IRC) and in Section 3109.2 of the 2006 International Building Code (IBC), a swimming pool is defined as "any structure intended for swimming or recreational bathing that can hold water over 24 inches deep." Residential in-ground pools are required to comply with the National Spa and Pool Institute's (NSPI's) Standard 5. This article will address some of the questions that have arisen from this reference.

What is a "residential pool?" A residential pool is defined in NSPI-1, which is referenced by NSPI-5, as "any pool that is intended for noncommercial use as a swimming pool by three families or less and their guests." For practical purposes, then, NSPI-5 applies to one- or two-family dwellings. However, if a three-family dwelling, a three-unit apartment/condominium, or three townhouses have an agreement (e.g., a homeowner's association) to share and maintain the pool, then it could still be categorized as a residential pool. Otherwise, once the number of families using the pool becomes four or more, it is then a "commercial/public pool" as per NSPI-1 and is required to be constructed as such.

What are the minimum water envelope dimensions? Because the diving dimensions are no longer published in the Building Subcode or the One- and Two-Family Dwelling Subcode, the table is being provided in this article along with a diagram (not to scale) demonstrating the dimensions. The deep-end wall starts at "W" and the shallow-end wall ends at "E"; the width

(continued on page 11)

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Affairs and the check must be made payable to: "Treasurer, State of New Jersey."

Since the passage of the Act, the Department has received numerous questions on the implementation of the law. The following is a list of some frequently asked questions that are intended to provide code officials with guidance:

1. How does the Statewide Nonresidential Development Fee Act apply to new multi-tenant commercial buildings?

   Answer: If a permit applicant applies for a construction permit and constructs a spec office building (Group B) or a spec retail building (Group M), a Certificate of Occupancy would be issued once the building is complete. The nonresidential development fee would be based on the equalized assessed value of the land and improvement (building). The fee must be collected before the Certificate of Occupancy is issued. Any "fit-up" work performed in a tenant space after the Certificate of Occupancy is issued is not considered new construction or an addition to an existing structure. Therefore, the work completed under the permit for the tenant space would not be subject to the nonresidential development fee. In any case, the amount of the nonresidential development fee is determined by the local tax assessor. The construction official's sole responsibility is to confirm that the fee has been paid prior to issuing a Certificate of Occupancy.

2. Are new State-owned buildings or additions to existing State-owned buildings exempt from the nonresidential development fee?

   Answer: Yes.

3. Are new municipal buildings or additions to existing municipal buildings exempt from the nonresidential development fee?

   Answer: Yes.

4. Are public schools exempt from the nonresidential development fee?

   Answer: Yes.

5. Are commercial farm buildings exempt from the nonresidential development fee?

   Answer: Yes.

If you have questions concerning implementation of the Act, you may contact the Code Assistance Unit in the Division of Codes and Standards at (609) 984-7609.

Source: Megan Sullivan Czyz
Division of Codes and Standards

Backflow Preventers – What Type is Required?

The Department of Community Affairs has become aware of questions concerning the type of backflow preventer that is required by water utilities or authorities to be installed on a water service that serves either a combination domestic and fire-protection system or a dedicated fire-protection system.

Some water utilities are requiring, at a minimum, a reduced pressure zone backflow preventer on the water services supplying water to any fire-protection system when the system is supplied from a public water main. This brings up two questions: First, what does the Plumbing Subcode require? Second, can a water utility or authority be more stringent than the Plumbing Subcode?

What does the Plumbing Subcode require? The 2006 National Standard Plumbing Code (NSPC) requires a reduced pressure zone backflow preventer on any fire-protection system that has a fire-department siamese connection. This is a change from NSPC/2003, which allowed a minimum of a double check-valve assembly if the system were both supplied from a potable water source and located more than 1700 feet from a non-potable water supply. On July 6, 2008, an amendment to *N.J.A.C.* 5:23-3.15 that would revert to the language in the NSPC/2003 was proposed in the *New Jersey Register*. By the time you read this article, it is likely to have been adopted.

Can a water utility or authority be more stringent than the Plumbing Subcode? This requires a lengthy response because there are two laws that apply. The adopted Plumbing Subcode states the type of backflow preventer required and the location. But, the Safe Drinking Water Act regulates water utilities and authorities, and requires them to protect the potable water from any backflow into the public water supply.

N.J.A.C. 5:23-3.15(b)10.iii amends Section 10.4.3 of the NSPC/2006 as follows: "Section 10.4.3 is amended to read: "potable water supplies shall be protected in accordance with the provisions of this code *and, where applicable,* the Safe Drinking Water Regulations (*N.J.A.C.* 7:10). The requirements of this code shall establish requirements for individual outlet protection. The requirements of the Safe Drinking Water Act shall establish the requirements for containment." (Emphasis added.)

So, the answer to the second question is: Yes, the water utility or authority can be more stringent than the Plumbing Subcode. Therefore, as stated in the amendment to the Plumbing Subcode, the containment backflow preventer on the incoming water service is regulated by the water utility or authority, which would have

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the final decision as to what type of backflow preventer is required.

Should you have any questions, you may contact me at (609) 984-7609.

Source: Thomas C. Pitcherello
Code Assistance Unit

Defining Occupant Load

Table 1004.1.1 of the 2006 International Building Code (IBC), Maximum Floor Area Allowances per Occupant, is to be used when calculating the occupant load. However, there appears to be some confusion as to what spaces/areas are to be counted within the calculation. Within Table 1004.1.1 of the IBC/2006, two very important terms are used: "gross" and "net." These terms are defined in Section 1002, Definitions, of the IBC/2006. I have included them below:

- FLOOR AREA, GROSS The floor area within the inside perimeter of the exterior walls of the building under consideration, exclusive of vent shafts and courts, without deduction for corridors, stairways, closets, the thickness of interior walls, columns, or other features. The floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be the usable area under the horizontal projection of the roof or floor above. The gross floor area shall not include shafts with no openings or interior courts.
- FLOOR AREA, NET The actual occupied area, not including unoccupied accessory areas such as corridors, stairways, toilet rooms, mechanical rooms, and closets.

As you can see, the definitions include/exclude certain portions of the building dependent on whether the "function of space" per Table 1004.1.1 of the IBC/2006 is gross or net.

If you have any questions on this matter, please contact me at (609) 984-7609.

Source: Rob Austin
Code Assistance Unit

Manual J Referenced in the IRC/2006

In the 2006 International Residential Code (IRC), Section M1401.3, Sizing, requires heating and cooling equipment to be sized based on building loads calculated in accordance with Air-Conditioning Contractors of America (ACCA) Manual J, Residential Load Calculation, or other approved heating and cooling calculation methodologies. As per *N.J.A.C.* 5:23-2.15(f)1.v and vii, these calculations are required to be submitted for all new one- and two-family dwellings and townhouses that are three stories or less in height.

OVERVIEW:

Manual J produces equipment sizing loads for single-family, detached homes, small multi-unit structures, condominiums, town houses, and manufactured homes. It provides quick supplemental details and advanced topics, as well as supporting reference tables and appendices. Manual J also accommodates homes that have exceptional architectural features and lifestyle accessories, such as:

- Dwellings that have limited exposure or no exposure diversity
- Homes with large south-facing glass area or rooms with unusually large glass area
- A thermally isolated solarium
- Customized internal load estimates

Manual J is sensitive to an increased variety of issues related to construction materials and methods, including:

- Fenestration loads for glass rated by the National Fenestration Rating Council
- Improved duct load models
- Improved methods for estimating the effect of internal and external shading devices, including insect screens
- Infiltration estimated based on blower door test
- Sensitivity to latitude and altitude
- Sensitivity to skylight glazing material, curb construction, and light shaft construction
- Heat-gain sensitivity to roofing material, roof color, and the use of radiant barrier
- Heat loss and gain for log walls; structural foam panels; aerated, autoclaved concrete block; insulated-form concrete panels; brick walls; concrete walls; wood foundation walls; and any other types of walls and insulation options.

Manual J references correlating manuals which are

also published by ACCA including Manual S, Residential Equipment Selection; Manual T, Air Distribution Basics; and Manual D, Residential Duct Systems. These are important because they aid the designer in picking the proper equipment for the loads established by Manual J, distribute the appropriate conditioned air to spaces throughout the home, and use ductwork that applies to the distribution and loads associated with Manual J.

Manual J is obtainable from http://www.acca.org, or by calling (703) 575-4477. If you have any questions, you may contact me at (609) 984-7609.

Source: Rob Austin
Code Assistance Unit

Update Fees

(reprinted from the Construction Code Communicator*, Volume 11, Number 4, Winter 1999)*

You just got an application to update an open permit -- now what do you do with it? If your municipality is like most, the only uniformity you have is your own way of handling it.

An update is an extension of the original permit. Therefore, you need to check the update to see if it still conforms with prior approvals and uses. A plan review may be (but is not always) needed. Now the big question to ask yourself is: "If the change had been on the original application, would it have changed the fee?" If your answer is no, distribute the paperwork just like any permit and file the rest. Generally, when a subcode official or technical assistant is given a filled-out technical form, their first response is to "price" it. However, there are times when no additional fee is required for a permit update. Two pricing examples follow.

The first example deals with a new building for which the fee is based on volume. If, during construction, the owner decides to add offices in an open space, there is no additional fee because the volume of the building has not changed.

The second example is electrical. If the electrician needs to add seven devices that were not on the original application, the electrical subcode official must review the original technical section to determine if an additional fee is required. The electrical fees are determined by unit rate, as indicated in the Uniform Construction Code at *N.J.A.C.* 5:23-4.18(c)3. The original permit and the update application are combined into one application; they are not regarded as separate permits. To be more specific, suppose the original application included 46 devices and the updated application added seven devices. Using the State fee schedule, $36 would have been paid on the original permit. Therefore, the updated fee would be $6 for the three devices over 50. If a fee were allowed to be charged for additional devices independent of the total number of devices, the total fee for the update would come to $36, an overcharge of $30.

The comment I often receive from code officials is, "But I have to do another inspection!" This may be true, depending on when the update occurs. Sometimes you have to do additional inspections without an update application. This may occur, for example, on a house that is being remodeled in phases because the owners are living in it; also, a large building requires numerous inspections.

Why complete an update application at all if there is no fee involved? Well, the owner may need it for insurance purposes, or the contractor may need it to get paid or to provide evidence of having completed the job. But, more importantly for code enforcement, the update ensures correct records. Accurate records allow all code officials to know what permitted work has been done in that building.

NOTE: The principal in this article applies even when the fees used in the examples change.

Source: Ken Verbos
Bureau of Regulatory Affairs

Loading Requirements for Handrails and Guards

The 2006 International Building Code (IBC) makes it really easy to figure out the minimum loading requirements for handrails and guards. Section 1012.1 (Handrails – Where Required) and Section 1013.1 (Guards – Where Required) both reference Section 1607.7, Minimum Uniformly Distributed Live Loads and Minimum Concentrated Live Loads, for adequate strength and attachment.

However, moving to the 2006 International Residential Code (IRC), Sections R311.5.6 (Handrails for Stairs), R311.6.3 (Handrails for Ramps), and R312 (Guards) are not so clear when it comes to loading requirements. This is because the IRC/2006 places minimum uniformly distributed live loads within Table R301.5 (Minimum Uniformly Distributed Live Loads). For your convenience, and as a quick reference, the loads specified in Table R301.5 for handrails and guards in the IRC/2006 are provided below.

MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS	
Use	**Load (psf)**
Guardrails and handrails[d]	200[i]
Guardrails in-fill components[f]	50[i]

Note d – A single, concentrated load applied in any direction at any point along the top.

Note f – Guard in-fill components (all those except the handrail), balusters, and panel fillers shall be designed to withstand a horizontally applied normal load of 50 pounds on an area equal to one square foot. This load need not be assumed to act concurrently with any other live load requirement.

Note i – Glazing used in handrail assemblies and guards shall be designed with a safety factor of 4. The safety factor shall be applied to each of the concentrated loads applied to the top of the rail and to the load on the in-fill components. These loads shall be determined independent of one another and loads are assumed not to occur with any other live load.

If you have any questions on this matter, please contact me at (609) 984-7609.

Source: Rob Austin
Code Assistance Unit

(continued from page 5)

At *N.J.A.C.* 5:23-1.4, Definitions, the class of a structure is defined and *N.J.A.C.* 5:23-4.3A is referenced. So, when figuring out which "class" applies, consult *N.J.A.C.* 5:23-4.3A(d), which is summarized below. And, yes, Class I, II, and III of *N.J.A.C.* 5:23-2.15(f)1.vii are the same as Class 1, 2, and 3 of *N.J.A.C.* 5:23-4.3A(d). Because the exceptions to *N.J.A.C.* 5:23-2.15(f)1.vii only apply to Class III (Class 3), we'll only take a look there --

Class 3 agencies may perform plan review for the following buildings [*N.J.A.C.* 5:23-4.3A(d)1]:

- Business Group B less than 7,200 square feet, two stories, 40 feet high;
- Mercantile Group M less than 4,800 square feet, one story, 40 feet high;
- Storage Group S-1 less than 4,200 square feet, one story, 40 feet high;
- Storage Group S-2 less than 7,200 square feet, two stories, 40 feet high;
- Residential Group R-3, as permitted in the Building Subcode, including accessory private garages, radio and television antennas, and swimming pools; and
- Residential Group R-5, as permitted in the Building Subcode, including accessory private garages, radio and television antennas, and swimming pools.

Therefore, if the project you are reviewing is a Class III/3 structure (which means it can be reviewed by a Class III/3 agency), then the plumbing plans, electrical plans, and mechanical plans may be submitted by a licensed master plumber, licensed electrical contractor, or mechanical contractor, respectively, as per *N.J.A.C.* 5:23-2.15(f)1.vii(1). Class II/2 and Class I/1 buildings/structures must be designed by registered architects or licensed professional engineers.

Source: Rob Austin
Code Assistance Unit

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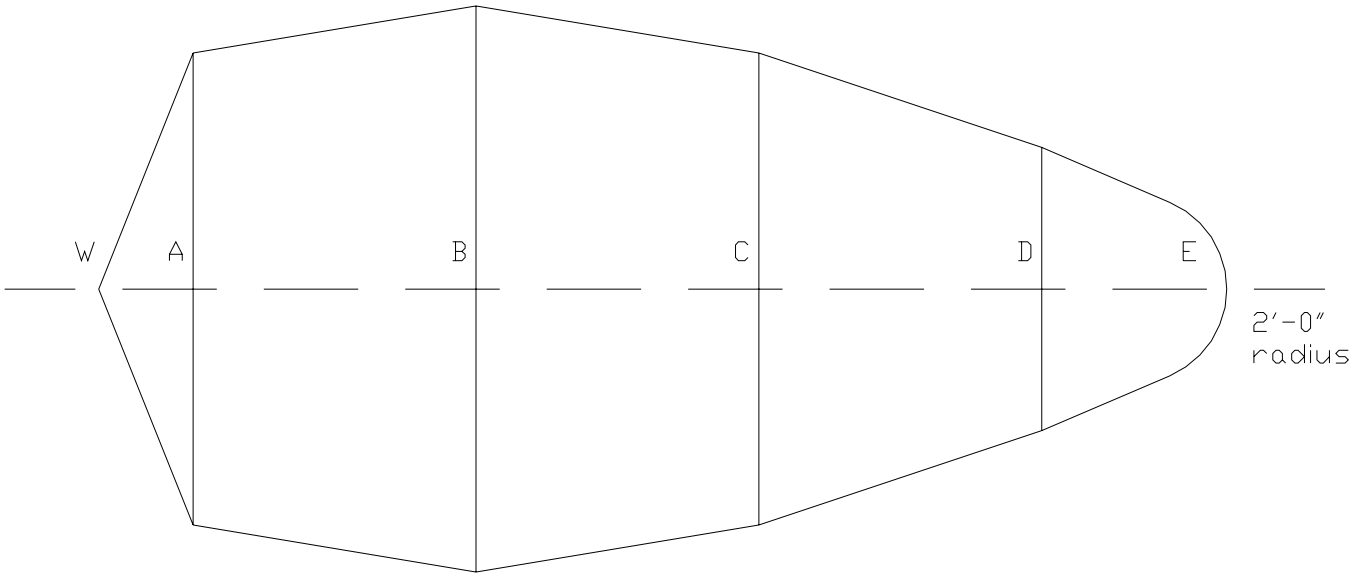
dimensions are the total width; the width is expected to be symmetrical.

Pool Type	Minimum Depth at point				Minimum widths at point				Minimum lengths between points					
	A	B	C	D	A	B	C	D	WA	AB	BC	CD*	DE	WE
O	Manufactured diving equipment is prohibited													
I	6'-0"	7'-6"	5'-0"	2'-9"	10'-0"	12'-0"	10'-0"	8'-0"	1'-6"	7'-0"	7'-6"	Varies	6'-0"	28'-9"
II	6'-0"	7'-6"	5'-0"	2'-9"	12'-0"	15'-0"	12'-0"	8'-0"	1'-6"	7'-0"	7'-6"	Varies	6'-0"	28'-9"
III	6'-10"	8'-0"	5'-0"	2'-9"	12'-0"	15'-0"	12'-0"	8'-0"	2'-0"	7'-6"	9'-0"	Varies	6'-0"	31'-3"
IV	7'-8"	8'-6"	5'-0"	2'-9"	15'-0"	18'-0"	15'-0"	9'-0"	2'-6"	8'-0"	10'-6"	Varies	6'-0"	33'-9"
V	8'-6"	9'-0"	5'-0"	2'-9"	15'-0"	18'-0"	15'-0"	9'-0"	3'-0"	9'-0"	12'-0"	Varies	6'-0"	36'-9"
	* Minimum length between points may vary based upon water depth at point D and the slope between C & D.													



Are handrails required for pool stairs? NSPI-5 requires pool stairs to have a minimum unobstructed tread depth of 10 inches and a minimum unobstructed surface area of 240 square inches. However, the exception to this rule is to provide a handrail when tread depth is less than 10 inches, but no smaller than 8 inches. In short, tread depth ≥10 inches, no handrail required; tread depth <10 inches but ≥8 inches, handrail required.

Are decks/walking surfaces required? NSPI-5 does not require a deck or walking surface to be provided around an in-ground pool. However, if provided, NSPI-5 contains requirements for their installation (drainage, materials, etc.).

If you have any questions on this matter, please contact me at (609) 984-7609.

Source: Rob Austin
Code Assistance Unit

What is a Commercial Farm Building?

At *N.J.A.C.* 5:23-3.2(d), the Uniform Construction Code (UCC) has regulations that apply to commercial farm buildings. At *N.J.A.C.* 5:23-3.2(d)1, a commercial farm building is defined as "any building located on a commercial farm which produces not less than $2,500 worth of agricultural or horticultural products annually, which building's main use or intended use is related to the production of agricultural or horticultural products produced on that farm."

Commercial farm buildings do not fit into any group pursuant to the Building Subcode; they are themselves a classification. At *N.J.A.C.* 5:23-3.2(d)2, the UCC states buildings that meet the definition of commercial farm building "shall be classified as commercial farm buildings." The UCC further states, "For those provisions not covered by this section, commercial farm buildings shall comply with the construction code provisions applicable to Group S-2." The UCC does not say that commercial farm buildings are designated as Group S-2. It says that, with certain specific exceptions, commercial farm buildings meet the requirements for Group S-2.

To ensure that the classification of commercial farm buildings is well understood, the UCC contains exceptions for specific aspects of commercial farm buildings. These include provisions for pre-engineered grain bins and other storage equipment used on the farm [*N.J.A.C.* 5:23-3.2(d)3], and temporary greenhouses, also called "hoophouses" [*N.J.A.C.* 5:23-3.2(d)4]. In addition, the UCC provides standards for the amount of hazardous materials that may be stored in a commercial farm building [*N.J.A.C.* 5:23-3.2(d)5] and sets limitations on the use of commercial farm buildings as places of public assembly [*N.J.A.C.* 5:23-3.2(d)6].

If you have questions about commercial farm buildings, their classification, or specific exceptions, please contact the Code Assistance Unit at (609) 984-7609.

Source: Emily W. Templeton
Code Development Unit

Three-Second Gust vs. Fastest-Mile Wind Speed

There seems to be a misunderstanding in the application of Table R301.2.1.3, Equivalent Basic Wind Speeds, of the 2006 International Residential Code (IRC). Prior to the publication of American Society of Civil Engineers Standard No. 7-95, most wind-related code provisions were based on the fastest-mile wind speed. Because there are documents referenced in the IRC/2006 that refer to the fastest-mile wind speed, Table R301.2.1.3 provides the conversion of the three-second gust to fastest-mile wind speed. The IRC/2006 is based on the three-second gust. All wind speeds referenced in the IRC/2006 are measured by the three-second gust, not the fastest mile.

EXAMPLE:

1. Section R301.2.1.1., Design Criteria, refers to a wind speed of 100 miles per hour or greater. This is the three-second-gust wind speed.
2. Section R301.2.1.1 refers to standards for the design of buildings with a wind speed equal to or greater than 100 mph. In the referenced standard SSTD-10 (Southern Building Code Congress International, Standard for Hurricane-Resistant Residential Construction), wind speeds are based on the fastest mile. Therefore, when using Table R301.2.1.3, you must change the wind speed from the three-second gust to the fastest mile in order to use SSTD-10.

The wind speeds obtained from Figures R301.2(4) are in three-second gust and this is the wind speed that must be used. In the standards that reference the fastest-mile wind speeds, you must change the three-second-gust wind speed obtained from Figure R301.2(4) and use Table R301.2.1.3 to convert to the fastest-mile wind speed.

If you have any questions on this, please direct your calls to me at (609) 984-7609.

Source: Marcel Iglesias
Code Assistance Unit

Windows 

How can you decide if the windows being installed in a house are code compliant? Windows are part of the building exterior and, like the exterior walls, must be rated for wind pressure.

How do you decide if the window that is rated for a wind pressure is the right window for a particular location? The design professional should provide documentation to indicate compliance with the 2006 International Residential Code (IRC).

Verification of code compliance is obtained by using the following table, figure, and sections of the IRC/2006: Table R301.2(2), Seismic Design Categories — Site Class D, in conjunction with Figure R301.1(7), Wall Zone 4 and 5, provided that the wind pressure the building exterior must be designed to (including windows and doors) complies with Section R613.3, Performance, as described below.

Section R613.3 of the IRC/2006 requires that exterior windows and doors be designed to resist the design wind loads specified in Table R301.2(2), adjusted for height and exposure per Table R301.2(3), Weathering Probability Map for Concrete. The IRC/2006 further requires, as per Section R613.4, Testing and Labeling, that exterior windows and sliding doors must be tested by an approved, independent laboratory, and must bear a label identifying manufacturer, performance characteristics, and approved inspection agency to indicate compliance with American Architectural Manufacturers Association/ Window & Door Manufacturers Association/Canadian Standards Association (AAMA/WDMA/CSA)101/I.S.2/A440, Standard/Specification for Windows, Doors, and Unit Skylights. Exterior, side-hinged doors are required to be tested and labeled as conforming to AAMA/WDMA/CSA101/I.S.2/A440. As an alternative, the exterior, side-hinged doors must comply with Section R613.6, Other Exterior Window and Door Assemblies.

If the windows in question meet or exceed the requirements of Section R613.3 and Table R301.2(2), and have been tested and labeled as per Section R613.4 for location, then the windows can be installed, except in wind-borne-debris regions. If a window is to be installed in a wind-borne-debris region, it must also comply with Section R301.2.1.2, Wind-Borne-Debris Protection Fastening Schedule for Wood Structural Panels, of the IRC/2006.

If you have any questions on this, please direct your calls to me at (609) 984-7609.

Source: Marcel Iglesias
Code Assistance Unit

New Jersey Register Adoptions

Date: July 7, 2008
Adoption: 40 *N.J.R.* 3990(a)
Summary: The adopted amendment at *N.J.A.C.* 5:23-3.14 retains the original text of the 2006 International Building Code (Section 903.3.1.2.1), and requires sprinkler protection for exterior balconies, decks, and ground-floor patios of dwelling units where the building is of Type V construction in Residential Group R buildings.

Date: July 21, 2008
Adoption: 40 *N.J.R.* 4314(b)
Summary: The adopted amendment at *N.J.A.C.* 5:23-2.18 requires that, in addition to the location, the height of the finished foundation be documented in order to identify any potential zoning violation with regard to the height of a new building before the building is constructed. The adopted amendments at *N.J.A.C.* 5:23-2.23 and 2.35 make corrections to a previous adoption to ensure that the correct technical provisions applicable to both nonresidential and residential construction are clearly identified when local code enforcement agencies are addressing problems reported by homeowners after issuance of a Certificate of Occupancy.

Date: August 4, 2008
Adoption: 40 *N.J.R.* 4523(b)
Summary: The adopted amendments at *N.J.A.C.* 5:23-1.1, 1.4, 2.22, 3.16, 4B.1, 4B.3, 4B.10, and 9.3 and adopted new rule at *N.J.A.C.* 5:23-4D establish requirements for recreational park trailers, and adopt American National Standards Institute Standard A119.5, 2005 edition, with amendments as the Recreational Park Trailer Subcode.

Date: September 15, 2008
Adoption: 40 *N.J.R.* 5195(b)
Summary: The requirement for all swimming pools to be equipped with main drain suction outlets in the lowest sections of the swimming pools was previously incorporated into the Plumbing Subcode for consistency with *N.J.A.C.* 8:26, Public Recreational Bathing. However, the requirements of *N.J.A.C.* 8:26 do not apply to swimming pools at one- and two-family residences. And because above-ground and in-ground residential swimming pools typically do not have main drain suction outlets, this amendment to *N.J.A.C.* 5:23-3.15 eliminates the requirement for main drain suction outlets for swimming pools at one- and two-family dwellings.

Date: September 15, 2008
Adoption: 40 *N.J.R.* 5195(c)
Summary: In order to clarify, and make more precise, rules concerning conflict of interest for code officials and

(continued on page 14)

(continued from page 13)

inspectors, the Department of Community Affairs has made the following amendments:

N.J.A.C. 5:23-4.5(j)2 now makes it clear that a code official cannot be engaged in ownership, employment, or contracting to provide goods and services with any business furnishing labor, materials, products, or services for construction, alteration, or demolition of structures within the municipality in which he is employed or in any adjacent municipality, regardless of the location where the activity occurred.

N.J.A.C. 5:23-4.5(j)1 revises the text so as to prohibit any person employed by an enforcing agency as a construction or subcode official or as an inspector from knowingly carrying out any inspection or enforcement procedure with respect to any property or business in which he or she, or any close relative or household member, or his or her superior within the enforcing agency, or any close relative or household member of any such superior, or any other public official or employee having any direct or indirect control over the funding or operations of the enforcing agency, or any household member of any such public official or employee has an economic interest. Thus amended, the rule is consistent with the conflict-of-interest provisions of the Local Government Ethics Law.

N.J.A.C. 5:23-5.25(c) now makes it clear a determination by the Department that a licensee has engaged in conduct constituting a conflict of interest under *N.J.A.C.* 5:23-4.5(j)2 constitutes grounds for revocation of a license and that suspension is not an adequate sanction in any such case, or in any case in which a licensee is convicted either of a crime or of an offense in connection with performance as a code official or inspector.

Source: Mary Ellen Handelman
Office of Planning and Operations

NOTES

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Jon S. Corzine, Governor

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Volume 20 Number 3

Winter 2008

Special Alert: UCC Information and Special Alerts to be Published in the DCA Document Library

Over the years, the Department of Community Affairs has provided code clarification, subject-specific instruction, and other important information to New Jersey's licensed construction code community by way of a mass U.S. Postal Service mailing.

Be advised the Department will seize the opportunity afforded by its new UCC Information Document Library and, beginning in the very near future, will use this Document Library with e-mail alerts to provide such clarification, instruction, or otherwise important information; it will also cease its use of the traditional U.S. Postal Service mass-mailing technique.

For this reason, you *must* subscribe to the Document Library following the instructions provided in the article entitled, "Coming Soon . . . the New UCC Information Folder in the MyNewJersey Document Library: Codes and Standards' Online Reference Room," which appears elsewhere in this newsletter. Please do so at your earliest opportunity to avoid missing out on important information from the Department.

Source: Susan Woidill
Division of Codes and Standards

Residential Swimming Pools and the Plumbing Subcode

There has been some confusion regarding the latest pool and spa requirements and the new suction entrapment prevention language that is referenced in the Uniform Construction Code. In the 2006 International Residential Code (IRC/2006), Appendix G (Swimming Pools, Spas, and Hot Tubs) addresses requirements for constructing new residential swimming pools. When the IRC/2006 was adopted as the One- and Two-Family Dwelling Subcode, Section AG106, "Entrapment Protection for Swimming Pool and Spa Suction Outlets," was deleted, and was replaced with a reference to the Plumbing Subcode, *N.J.A.C.* 5:23-3.15(b)8.vi. This has resulted in confusion with regard to enforcement during the permitting and inspection process for new residential swimming pools. There has also been confusion with the way that swimming pool installers are interpreting the new requirements.

There are two key areas that should be highlighted. Residential swimming pools that are constructed with submerged suction (bottom drains) must now have two suction outlets that are at least three feet apart. These outlets must have American Society of Mechanical Engineers (ASME) -approved type covers. The pool must also have some type of atmospheric safety vacuum release system provided at the pump or pumps. The atmospheric safety vacuum release system must conform to ASME A112.19.17. To date, there

(continued on page 3)

In This Issue

Coming Soon . . . the New UCC Information Folder in the MyNewJersey Document Library: Codes and Standards' Online Reference Room

We will be adding a new folder to the myNewJersey Document Library, entitled "UCC Information."

What is it? The Document Library is a restricted channel on the State's myNewJersey portal; the portal is simply the platform through which the State of New Jersey provides a variety of e-government services and online information. Access to the Document Library through the portal allows us to take advantage of a technology platform that is easy to use, efficient, and most importantly secure. The UCC Information folder is a new online reference room for Uniform Construction Code (UCC) -related issues.

What will I find there? The Document Library contains folders that you have authorization to view. The new UCC Information folder will contain information about New Jersey construction code enforcement in general. It will contain current and back issues of the *Construction Code Communicator*, formal technical opinions, bulletins, and special alerts to construction code enforcement staff throughout New Jersey. And, over time, it will contain so much more.

How do I get in? These three keys will open the UCC Information folder to you: 1) you must have Internet access; 2) you must be a registered myNewJersey portal user; and 3) you must be an authorized user to access the UCC Information folder within the myNewJersey Document Library.

To request authorization to the UCC Information Document Library, please follow the instructions for the description that best fits your current employment. You will receive an e-mail invitation and instructions on how to use the system.

Working licensed officials: If you have not already provided your information through the Mutual Aid Survey, please e-mail Susan Lydon in the Office of Regulatory Affairs at slydon@dca.state.nj.us. Provide your full name, license number, e-mail address, the position(s) you currently hold, and the municipality or municipalities in which you are employed.

Licensed individuals not currently employed in code enforcement: Please e-mail the Bureau of Code Services Licensing Unit at codeslicensing@dca.state.nj.us. Provide your full name, license number, and e-mail address.

Nonlicensed individuals: Please e-mail codesandstandards@dca.state.nj.us, and provide your full name, e-mail address, and interest in UCC Information.

Note: If you are already a *PermitsNJ* user, you have access to the myNewJersey Portal and the myNewJersey Document Library, but you must obtain an authorization code to gain access to the UCC Information folder. You do not need to request this authorization code. We will be sending an authorization code to all current *PermitsNJ* users when the new UCC Information folder is available.

Source: Susan Woidill
Division of Codes and Standards

Final Payment – Contractual Matter

In response to a multitude of calls regarding the reference to *N.J.A.C.* 13:45A-16.2(a)10.ii on the back of Uniform Construction Code (UCC) Form F180, Construction Permit Notice, the following is the actual wording of the regulation from the New Jersey Department of Law and Public Safety, Division of Consumer Affairs:

> Where midpoint or final inspections are required under State laws or local ordinances, copies of inspection certificates shall be furnished to the buyer by the seller when construction is completed and before final payment is due, or the signing of a completion slip is requested of the buyer.

Final payment is a contractual matter. The notice simply advises the owner that final payment is not required until the job has passed final inspection.

If you have questions regarding the UCC requirements, you may contact me at (609) 984-7609. If you have questions regarding Consumer Affairs' requirements, you may contact them at (888) 656-6225 or (973) 504-6370.

Source: Rob Austin
Code Assistance Unit

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are a number a different types of devices that are approved. If the residential swimming pool is constructed without submerged suction outlets, it is not required to be equipped with an atmospheric safety vacuum release system.

An exception to *N.J.A.C.* 5:23-3.15(b)8.vi of the Plumbing Subcode, paragraph 7.23.4.1 of the National Standard Plumbing Code (which was adopted on September 15, 2008) states: "Swimming pools installed in or on the lots of one- or two-family dwellings" are not required to be equipped with main-drain suction outlets in the lowest point of the swimming pool floor.

A permit application for a residential swimming pool with bottom suction drains must include plumbing, building, and electrical technical sections. The plumbing inspector is responsible for the inspection of the bottom suction drains, the vacuum release system, and the pool heater (if one is being installed). If there are no bottom drains and no vacuum release system or pool heater, then a plumbing technical section is not required.

I hope that this article clears up some of the confusion with these new pool requirements.

Should you have any questions, you may contact me at (609) 984-7609.

Source: Thomas C. Pitcherello
Code Assistance Unit

Clothes Dryers -- Residential (Type 1) Combustion Air

The 2006 International Residential Code (IRC/2006), Section G2407.1, General, and the 2006 International Fuel Gas Code (IFGC/2006), Section 304.1, General, require air for combustion, ventilation, and dilution of flue gases for appliances installed in buildings.

In the IRC/2006 and IFGC/2006, an exception was added for Type 1 clothes dryers that are provided with make-up air in accordance with Section G2439.4 (IRC), Make-Up Air, and Section 614.5 (IFGC), Make-Up Air. Section 614.5 (IFGC/2006) states: "Installations exhausting more than 200 cfm shall be provided with make-up air. Where a closet is designed to allow for the installation of a clothes dryer, an opening having an area of not less than 100 square inches for make-up air shall be provided in the closet enclosure, or make-up air shall be provided by other approved means."

Because the exception for Type 1 clothes dryers requires only make-up air, the requirement for two openings in a wall for combustion air does not apply. The exception recognizes that clothes dryers receive the required combustion air from the make-up air that compensates for the exhaust air from the appliance.

Therefore, if a clothes dryer is located in a closet or room where there is no other gas- (or oil-) fired appliances or equipment, only one opening of not less than 100 square inches is required. A louvered door with a minimum opening of not less than 100 square inches meets the requirements for combustion air and make-up air.

Should you have any questions, you may contact me at (609) 984-7609.

Source: Thomas C. Pitcherello
Code Assistance Unit

Hot Topics

In this technological age, we are becoming more and more dependent on the Internet. The Division of Codes and Standards is also relying more and more on the Internet to get pertinent information out to the public, especially our licensed code officials and inspectors.

Information regarding hot topics that affect the Uniform Construction Code (UCC) have been placed on the Division's website and I invite you to take a look at them. A brief explanation of some of the hot topics is provided below. However, please visit http://www.nj.gov/dca/codes to view all the information.

SPECIAL INSPECTOR CERTIFICATION

On November 6, 2006, the Department of Community Affairs adopted rules establishing requirements for the certification of special inspectors. The effective date of the rules is November 6, 2008. [See *N.J.A.C.* 5:23-5.4(f).] These requirements are now in effect. No permit may be issued for any project requiring special inspections unless the names and certifications of those performing the special inspections are provided.

The website listed above includes the letter to construction officials (November 2008), the special inspector rules, the provisional certification application, the special inspector information booklet, the special inspector application, and a list of certified special inspectors.

OUTDOOR WOOD BOILERS

Some issues have arisen with regard to outdoor wood boilers. For instance, county health departments,

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CSST Bonding Follow-Up

Since there appears to be continued confusion on bonding of gas piping, specifically Corrugated, Stainless-Steel Tubing (CSST), this article expands upon the Winter 2007 *Construction Code Communicator* article, "CSST Bonding – What is Required?" and Section 250.104(B), Other Metal Piping, of the 2005 National Electrical Code (NEC/2005).

Section G2411.1 of the 2006 International Residential Code (IRC/2006), Gas Pipe Bonding, which applies to Group R-5 occupancies, and Section 310.1 of the 2006 International Fuel Gas Code (IFGC/2006), Gas Pipe Bonding, which applies to all occupancies other than Group R-5, state the following:

> Each above-ground portion of a gas piping system that is likely to become energized shall be electrically continuous and bonded to an effective ground-fault current path. Gas piping shall be considered to be bonded when it is connected to appliances that are connected to the equipment grounding conductor of the circuit supplying that appliance.

Referenced model codes supersede the manufacturer's recommendations. Therefore, contrary to some manufacturers' installation recommendations, the above sections prevail. No additional bonding is required where there is electrical connection to any gas appliance; the grounding conductor serves as the bonding means of a gas piping system. If the installation meets the manufacturer's recommendations for bonding, this would be considered above code requirements and acceptable.

If you have any further questions, you may contact us at (609) 984-7609.

Source: Rob Austin and Suzanne Borek
Code Specialists

Gas Water Heaters Recalled

In an April 3, 2008 release, the United States Consumer Product Safety Commission (CPSC), in cooperation with A. O. Smith and State, water heater manufacturers, has announced a voluntary recall of approximately fifteen hundred 75-gallon natural and propane gas water heaters. The flue gas temperatures on these water heaters can exceed safe limits and produce excessive temperature in the venting unit, which poses a fire hazard. Also, the exhaust from the water heater can leak into the surrounding room, which poses a carbon-monoxide hazard.

The recalled water heaters involve A. O. Smith Model No. FCG-75 300 and FCG-75 301, Serial Numbers L07A071460 through L07A144966, and State Model No. GS6 75 XRR S and GS6 75 CRR S, Serial Numbers M07A009387 through M07A072884. Model and serial numbers are printed on the water heater's rating plate. The recalled water heaters were sold by independent contractors and plumbers nationwide from November 2007 through January 2008.

The CPSC recommends that consumers immediately stop using the recalled water heaters and contact the manufacturer at (866) 880-4661, or visit the firm's website at http://www.hotwater.com, to arrange for a free repair.

This notice is just to inform code officials that if, for example, they are inspecting a furnace or boiler replacement, they may take notice of the existing water heater and, if any of the recalled water heaters are installed, advise the building owner that there is a recall on these heaters, and provide the owner with information on how to contact the company for a free repair. Of course, this is voluntary on your part.

Should you have any questions, you may contact me at (609) 984-7609.

Source: Thomas C. Pitcherello
Code Assistance Unit

The U.S. Census Bureau's Monthly Building Permits Survey: A Leading Economic Indicator of the Construction Industry

To monitor the health of our nation's economy, one of the most watched statistics is the Index of Leading Economic Indicators, published by The Conference Board. There are ten data series that are used to compile this index, one of which is building permits authorized for new privately-owned, residential construction.

The data provided to the Census Bureau, either through paper reports or electronic data submissions, are essential to the calculation of accurate estimates of new residential construction. In addition, these data are used to calculate local population estimates between censuses and are used by many others for a variety of purposes, such as companies deciding where to build their next plant or store, academic researchers, etc.

We would like to express our deep gratitude to the municipalities in New Jersey in providing these data.

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acting under the authority of the New Jersey Department of Environmental Protection (DEP), have ordered residents with existing outdoor wood boilers to remove them. This is because the DEP issued a compliance advisory regarding outdoor wood boilers and concern with the smoke emission provisions of DEP's rules at *N.J.A.C.* 7:27-3. The Division is reaching out to the DEP to get some clarification and guidance for those who have or who want to install outdoor wood boilers.

Please visit the website for the letter to construction officials (November 2008) regarding the rules and regulations for outdoor wood boilers. We will be updating/adding information as it comes to us.

PERMIT EXTENSION ACT OF 2008

On September 6, 2008, Governor Jon S. Corzine signed the "Permit Extension Act of 2008," P.L. 2008, c. 78. This law, like a similar law passed in 1992, was passed in response to the economic downturn, which has slowed construction. The law extends the period in which UCC permits and approvals are valid. In short, the Permit Extension Act stops the clock on the expiration of approvals during the "extension period," which is defined as January 1, 2007 through July 1, 2010. This means that any UCC permit that was valid as of January 1, 2007 will still be valid on July 1, 2010. However, the Act does have exclusions.

Please visit the website for the information sent to construction officials in September 2008. For example, the information contains examples of the Act's application to UCC permits, lists the types of permits/projects that are included and those that are excluded, and further clarifies the definition of "environmentally sensitive area."

PARK MODEL GUIDANCE

The Recreational Park Trailer Subcode (*N.J.A.C.* 5:23–4D) was adopted on August 4, 2008 and addresses the construction requirements for recreational park trailers. Please visit the website for the guidance document that provides information about permit applications, field inspections, additions, existing units, existing additions, and removal of a recreational park trailer.

Again, the Division's website address is http://www.nj.gov/dca/codes. Typically, the most recent information is in the first column under the heading "Announcements."

If you have questions regarding any of these matters, please contact me at (609) 984-7609.

Source: Rob Austin
Code Assistance Unit

With Every New Holiday, Kiosks are Aplenty!

Kiosks tend to sprout up all over enclosed mall buildings with every change of a holiday season. Please keep in mind, as per the Uniform Construction Code (UCC), permanent kiosks are required to meet the requirements of Section 402.10, Kiosks, of the 2006 International Building Code. Temporary kiosks are required to meet these requirements when the kiosk (1) covers an area 120 square feet or more, including all connecting areas or spaces with a common means of egress or entrance; and (2) remains in place for 180 days or more [*N.J.A.C.* 5:23-2.14(b)4.i]. If the temporary kiosk does not meet the two criteria above, then it is subject to the Uniform Fire Code (UFC).

Kiosks that are subject to the UCC must be reviewed and inspected per *N.J.A.C.* 5:23-3.4(a)1, Responsibilities; plan review is performed by building and fire subcode officials, and inspections are performed by the building subcode official. Kiosks that are subject to the UFC are to be reviewed and inspected by the local fire official.

If you have any questions on this matter, you may contact me at (609) 984-7609.

Source: Rob Austin
Code Assistance Unit

Photoluminescent Exit Signs -- Revisited

This is a follow-up article to one written in the *Construction Code Communicator*, Winter 2004, Volume 16, Number 3. In this article, the analysis and advice are updated.

The 2000 edition of the International Building Code (IBC/2000) contained requirements for the installation of externally illuminated exit signs. Section 1003.2.10.4 of the IBC/2000, entitled "Exit Sign Illumination," stated that exit signs must be internally or externally illuminated. This code section went on to require that the face of an exit sign must be illuminated from an external source and must have an intensity of illumination of not less than five foot-candles. Next, Section 1003.2.10.5 of the IBC/2000, entitled "Power Source," required exit signs to be illuminated at all times. To ensure this, the exit sign illumination source was required to be connected to an emergency electrical system provided from storage batteries, unit equipment, or an on-site generator; this would ensure continued illumination for not less than 90 minutes in the event of primary power loss. However, there was an exception to this requirement: approved, self-

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Type 1 Hoods and Fire-Suppression Systems

It is stated in both the International Mechanical Code (IMC) and International Fire Code (IFC) that Type 1 hoods and associated fire-suppression systems are required above all cooking appliances that are used for ***commercial purposes***, and that produce grease-laden vapors. These requirements can be found in the IMC/2006, Section 507.2 and the IFC/2006, Section 609.2.

So what does this mean? There is no question that cooking operations are inherently hazardous and increase the chance of fires. However, we must balance the need for Type 1 hoods and fire-suppression systems with the purpose of the cooking operation.

Recently, there have been several inquiries regarding residential ranges being installed in educational institutions and special-needs training facilities to teach students/clients how to cook in the home setting. This operation **would not** require a Type 1 hood and associated fire-suppression system.

However, if commercial cooking equipment is being installed or residential cooking equipment is being installed with the intent of being utilized for a commercial purpose, then the code is clear, and a Type 1 hood and associated fire-suppression system should be installed.

Source: Carmine Giangeruso
Construction Official
Office of Regulatory Affairs

Protection of Adjoining Property

N.J.A.C. 5:23-2.15(f)1.i(1) and *N.J.A.C.* 5:23-2.34 require that, when a building or structure is built or rehabilitated, the adjacent building or structure must be protected from possible damage caused by the work on the other building or structure. Here is some guidance on how to proceed.

1. **How do we protect the existing adjacent footing from the new footing?**
   Adjoining footings are addressed in the 2006 International Residential Code (IRC/2006) and 2006 International Building Code (IBC/2006). Section R301.1.3 of the IRC/2006 allows for design in accordance with engineering practice or the IBC/2006 where a building contains structural elements not conforming to the IRC/2006. Section 1805.2.2 of the IBC/2006 addresses adjoining footings.

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Your State is using cutting-edge technology by capturing most of this information electronically and transmitting it to the Census Bureau.

Our loss of personal contact with each local permit office is a down-side to electronic data collection. Ordinarily, questions we have about a completed survey form are asked directly of the person submitting that form. With a large electronic system, that is not so easy.

We want to bring to your attention a reporting issue that can adversely affect this data. Many local jurisdictions (not just in New Jersey) are issuing individual permits for each housing unit in a multifamily building. When each permit is reported separately, units are often incorrectly classified as single family. More significantly, the total units in the structure are occasionally reported each time another unit is authorized, creating a very large overestimate in the multifamily category.

This has been acknowledged in the *Construction Code Communicator* (Volume 20, Number 1), where it was observed in the article, "Multiple Permits for Multiple Dwellings Means Multiple Mistakes," that this practice "overstates the number of authorized dwellings in the municipality, a critical construction indicator — one that is used to determine affordable housing obligations."

In order to publish accurate building permit data, when the initial building permit is authorized, we need to know the total number of units that will be in a multifamily building. These same units should not be counted again.

If you need assistance in reporting these data, please contact John Lago, Division of Codes and Standards, Department of Community Affairs at (609) 292-7898.

Source: Dan Sansbury
Assistant Division Chief
Construction Indicator Programs
U.S. Census Bureau

and

Annetta M. Titus
Survey Statistician
Residential Construction Branch
U.S. Census Bureau

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National Certification of Construction Code Professionals Now Available from IAPMO

On December 31, 2008, the six-year-long agreement between the National Certification Program for Construction Code Inspectors (NCPCCI) and the International Code Council (ICC) expires. This means that the ICC will accept only results from ICC examinations and will no longer accept NCPCCI score reports for issuing ICC certificates for code enforcement professionals.

However, those who take code enforcement examinations through NCPCCI may obtain national certificates through the International Association of Plumbing and Mechanical Officials (IAPMO). Code enforcement professionals do not need to be members of IAPMO to obtain their national certification.

The chart below will assist in determining the NCPCCI examination required for each IAPMO certification.

Commercial Inspection	NCPCCI Exam	Inspection	NCPCCI Exam	Code Official	NCPCCI Exam
☐ Commercial Building Inspector	1B, 3B	☐ Building Inspector	1A, 1B, 3B	☐ Building Code Official	1A, 1B, 3B, 1C, 3C, CBO
☐ Commercial Electrical Inspector	2B	☐ Electrical Inspector	2A, 2B	☐ Electrical Code Official	2A, 2B, 2C, CBO
☐ Commercial Mechanical Inspector	4B	☐ Mechanical Inspector	4A, 4B	☐ Mechanical Code Official	4A, 4B, 4C, CBO
☐ Commercial Plumbing Inspector	5B	☐ Plumbing Inspector	5A, 5B	☐ Plumbing Code Official	5A, 5B, 5C, CBO
☐ Commercial Combination Inspector	1B, 2B, 3B, 4B, 5B	☐ Combination Inspector	1A, 2A, 4A, 5A, 1B, 2B, 3B, 4B, 5B	Score reports documenting eligibility must be less than 3 years old. IAPMO certifications issued under this program are based on the International Codes, as well as other applicable codes. Complete an application for IAPMO Personnel Certification based on NCPCCI examinations, and submit it along with a copy of your passing score report and the applicable fee. Receive an IAPMO certificate and wallet card after completing the certification application process. Additional information is available for the NCPCCI exams at http://www.prometric.com/ncpcci and for IAPMO certifications based on the Uniform Codes at http://www.iapmo.org/Pages/GetCertified.aspx.	
☐ Elevator Inspector	6B				
Residential Inspection		**General Plans Examination**			
☐ Residential Building Inspector	1A	☐ Building Plans Examiner	1B, 1C, 3B, 3C		
☐ Residential Electrical Inspector	2A	☐ Electrical Plans Examiner	2B, 2C		
☐ Residential Mechanical Inspector	4A	☐ Mechanical Plans Examiner	4B, 4C		
☐ Residential Plumbing Inspector	5A	☐ Plumbing Plans Examiner	5B, 5C		
☐ Residential Combination Inspector	1A, 2A, 4A, 5A	☐ Combination Plans Examiner	1C, 2C, 3C, 4C, 5C		

Those code enforcement professionals who would like to obtain a national certificate issued by IAPMO may contact Kathy Maka, Personnel Certification Program Manager, at kathy.maka@iapmo.org.

Source: Emily W. Templeton
Code Development Unit

Nonmetallic-Sheathed Cable Installations

The Division of Codes and Standards is still receiving many questions regarding the installation requirements of nonmetallic-sheathed cable in Article 334 of the 2005 National Electrical Code (NEC). The confusion lies between the NEC/1999 and the NEC/2002. Here, a change was made in the "uses permitted" section eliminating the height limitation in the NEC/1999, and associating the installation with building occupancy and construction types in the NEC/2002. (This remains true for the NEC/2005 and NEC/2008.) With the exception of one- and two-family dwellings of any construction type, all buildings are required to be Type III, IV, or V construction provided the nonmetallic-sheathed cable is concealed in multifamily dwellings, or is provided with a thermal barrier that has at least a 15-minute finish rating (e.g., typical Sheetrock) for all other buildings.

The question that remains is what are Types III, IV, and V construction? Type III is masonry exterior walls, Type IV is heavy timber, and Type V is conventional wood-framed lumber.

In short, since the adoption of the NEC/2002 (May 5, 2003), buildings of any size or shape have been permitted to have nonmetallic-sheathed cable installed as long as they are Type III, IV, or V construction.

Note: For the specifics on uses permitted and uses not permitted for nonmetallic-sheathed cable, please visit Sections 334.10 and 334.12, respectively, as amended by *N.J.A.C.* 5:23-3.16.

If you have any questions on this matter, please contact us at (609) 984-7609.

Source: Rob Austin and Suzanne Borek
Code Assistance Unit

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luminous exit signs that provided continuous illumination independent of external power sources for no less than 90-minutes in case of primary power loss were acceptable.

The IBC/2006 contains similar code requirements that allow the installation of externally illuminated exit signs. Section 1011.5 of the IBC/2006, entitled "Externally Illuminated Exit Signs," states that externally illuminated exit signs must comply with the requirements of 1011.5.1 through 1011.5.3. Section 1011.5.1, entitled "Graphics," contains requirements for the lettering on the sign; Section 1011.5.2, entitled "Exit Sign Illumination," requires that five foot-candles of light be present at the face of the sign; and Section 1011.5.3, entitled "Power Source," requires that the sign be illuminated at all times and at least 90 minutes after primary power failure. Section 1011.5.3 requires the power supply for the sign to be connected to an emergency power supply. As in the 2000 code, there is an exception for self-luminous signs that provide continuous illumination independent of the external power source. Photoluminescent exit signs will glow for up to 65 hours after an external power source failure; thus, this exception allows the use of photoluminescent signs.

The manufacturers of photoluminescent exit signs specify that these signs require exposure to a minimum of five foot-candles of light for an hour to become fully operational. The signs require an unfiltered fluorescent light with the intensity of five foot-candles be present, 24 hours a day, seven days a week. The external illumination power source must be reliable and not on a circuit controlled by an automatic timer. The photoluminescent exit signs should only be installed inside and should not be exposed to direct sunlight, moisture, or temperatures outside the range of 50 to 104 degrees F. The manufacturers' installation instructions include information about periodic inspections. Uniform Construction Code officials are not responsible for these periodic inspections because maintenance inspections are performed by Uniform Fire Code officials.

These signs are permitted provided the installation meets all of the code requirements and the manufacturer's installation instructions.

Should you have any questions, you may contact either of us at (609) 984-7609.

Source: Suzanne Borek and Michael Whalen
Code Assistance Unit

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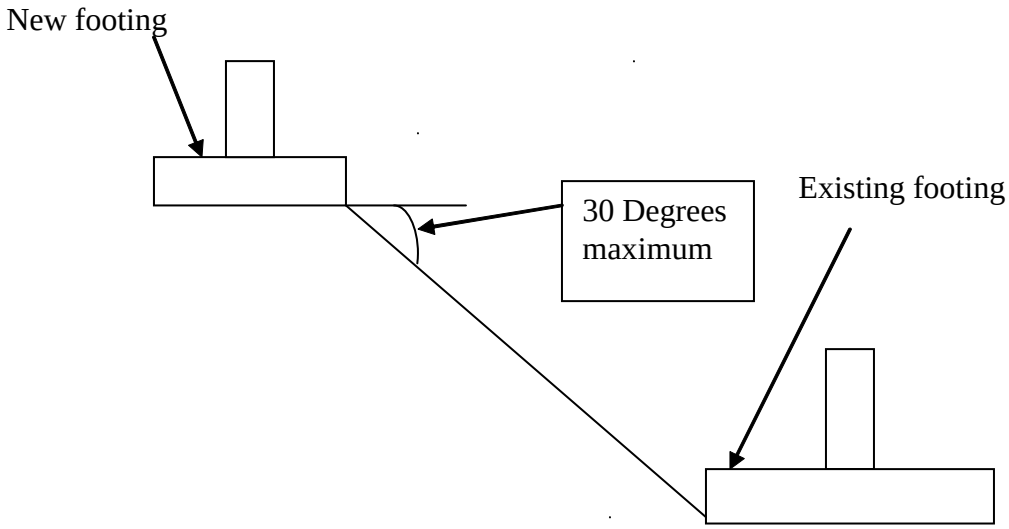
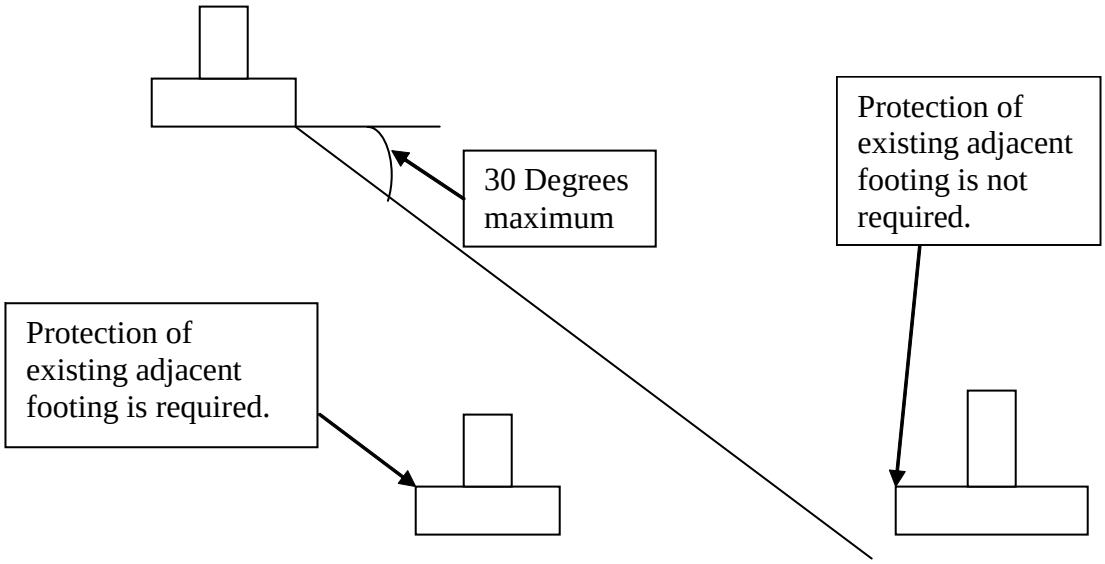
Compliance with *N.J.A.C.* 5:23-2.15(f)1.i(1) can be accomplished with the placement of the new foundation at a strategic place. If you draw a line between the lower edges of the adjoining footing, the slope cannot be steeper than 30 degrees with the horizontal. See Sketch A below:

A.



When the slope is less than 30 degrees, you do not need to protect the adjacent footing. Otherwise, protection is required. See Sketch B below:

B.



2. How do we protect existing buildings with a lower roof from drifting snow off a new, taller building?

Drift snow is addressed in the IRC/2006 and IBC/2006. Section R301.1.1 of the IRC/2006 allows for alternative design in compliance with engineering practice or with the IBC/2006. The IRC/2006 does not directly address drift snow. Therefore, engineering practice or the IBC/2006 requirements for drift snow are applicable to all buildings. Section 1608 of the IBC/2006 references Chapter 7 of American Society of Civil Engineers (ASCE) Standard 7 – 2005 for snow loads. Section 7.7 of ASCE 7 – 2005 addresses drift snow on lower roofs.

The designer can set the buildings' exterior walls 20 feet or greater apart, so that drifting snow will not impact the adjacent building's structural system and components, regardless of differential height. For those buildings that are

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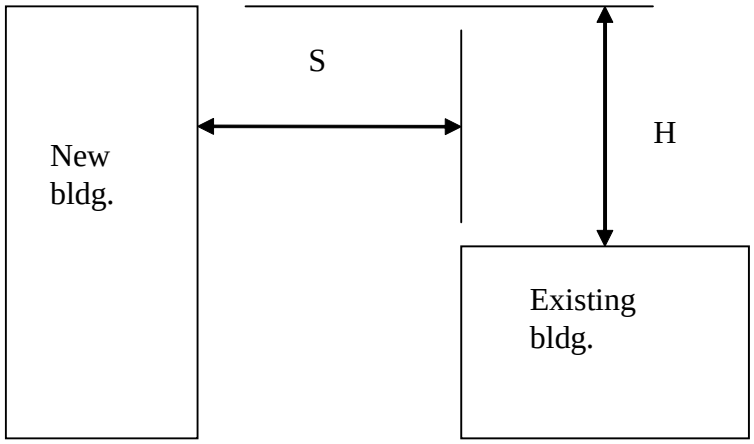
within 20 feet of each other, the designer has options on how to analyze and design for snow drift loads. 1) The designer can analyze the existing building for the additional loads due to snow drift, and reinforce the structural system and components as required. Or, 2) the designer can use the relationship of separation distance and differential height of the buildings. Using this option of separation distance and differential height, one can draw the following conclusion. When the differential height of the taller, new building to the shorter, existing building is equal to or less than the separation distance, then snow drift need not be considered. Otherwise, drift snow impacts the structural system and components of the existing building. The structural system and components of the existing building must be analyzed, and corrective measures taken if necessary. See Sketch C below:

C.



If S = H or > H, snow drift need not be considered.

If you have any questions on this, please direct your calls to me at (609) 984-7609.

Source: Marcel Iglesias
Code Assistance Unit

Swimming-Pool Barriers Revisited

Many of you may remember the confusion created when the 1993 Building Officials and Code Administrators National Building Code was amended to include requirements for swimming-pool barriers. There have been many telephone calls made, letters written, and *Construction Code Communicator* articles published on this topic.

After hours of debate, this article is intended to clarify one of the more contentious issues that has arisen: "Is it permissible to share a swimming-pool barrier with my neighbor?"

The opinion of the Department is "Yes." It is permissible to share a swimming-pool barrier, provided the local authority having jurisdiction grants a variation to do so. The variation should include a statement from the fence owner acknowledging use of his fence as a swimming-pool barrier and a statement from the pool owner acknowledging his responsibility to install a compliant barrier should the neighbor remove his fence for any reason. The barrier should not be climbable, as per code, from the side away from the swimming pool; and if there is a swimming pool on both sides of the barrier, the barrier should not be climbable from either side.

This should solve many of the problems before us as code officials on the subject. We believe this solution is reasonable and protects the public at the same time. Should you have any questions on this article, please contact the Code Assistance Unit at (609) 984-7609.

Source: John N. Terry
Code Assistance Unit

Sound Transmission

Section 1207 of the 2006 International Building Code (IBC/2006) contains sound transmission requirements. The Code Assistance Unit has received many telephone calls as to where these requirements are located within the 2006 International Residential Code (IRC/2006). When in doubt, check the appendices! Just as the swimming-pool barrier requirements are in Appendix G, the sound transmission requirements are in Appendix K of the IRC/2006. The sound transmission section/appendix from both codes is essentially the same. Here's a quick synopsis:

- Common interior walls, partitions, and floor/ceiling assemblies between adjacent dwelling units or between dwelling units and adjacent public areas such as halls, corridors, stairs, or service areas are to meet a specified Sound Transmission Class (STC) and Impact Insulation Class (IIC).
- Air-borne sound: IBC/2006 requires an STC rating of not less than 50 (45 if field tested) when tested in accordance with American Society for Testing and Materials (ASTM) Standard E90; IRC/2006 requires an STC rating of not less than 45.
  - → More specifically, the STC rating is to be maintained at penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating, or exhaust ducts are to be sealed, lined, insulated, or otherwise treated. (This requirement does not apply to dwelling unit entrance doors; however, such doors are to be tight fitting to the frame and sill.)
- Structure-borne sound: IBC/2006 requires an IIC rating of not less than 50 (45 if field tested) when tested in accordance with ASTM E492; IRC/2006 requires an IIC rating of not less than 45.

If you have any questions on this matter, please contact me at (609) 984-7609.

Source: Rob Austin
Code Assistance Unit

New Jersey Register Adoptions

Date: November 3, 2008
Adoption: 40 *N.J.R.* 6437(b)
Summary: The adopted amendments at *N.J.A.C.* 5:23-5.3, 5.19G, and 5.23B establish new categories of special inspectors who will be required to perform field inspections for structural welding, structural steel and bolting, concrete placement, reinforced concrete, and prestressed concrete, and the applicable sections of the Building Subcode for which each special inspector is responsible. In addition, this rule change establishes the required education, experience, and certifications that will be required.

Date: November 3, 2008
Adoption: 40 *N.J.R.* 6439(a)
Summary: The adopted amendment at *N.J.A.C.* 5:23-5.25 addresses the revocation of licenses and alternative sanctions. Since there was not an intermediate penalty between the 60-day suspension period and the revocation of a license for a construction official, a subcode official, or an inspector, the 60-day limitation was eliminated so that an appropriate suspension period could be imposed. This rule change also requires that any conduct for which the Department of Community Affairs seeks to impose sanctions must have occurred within the past ten years.

Date: November 17, 2008
Adoption: 40 *N.J.R.* 6540(a)
Summary: The adopted amendment at *N.J.A.C.* 5:23-3.15 addresses fire department (Siamese) connections in the Plumbing Subcode. The Plumbing Subcode was changed to revert to the language in the 2003 National Standard Plumbing Code to permit the installation of a double check valve assembly on a fire-protection system, which includes a fire department (Siamese) connection, where the system is supplied from a potable water system and is located more than 1,700 feet from a non-potable water supply; it also requires a reduced pressure zone (RPZ) backflow preventer on a system where a non-potable water supply system is located within 1,700 feet of a non-potable water supply. Lastly, minor changes were made to update the edition of an American Society of Mechanical Engineers (ASME) and American Society of Heating, Refrigerating, and Air-Conditioning Engineers referenced standard.

Date: December 15, 2008
Adoption: 40 *N.J.R.* 6958(a)
Summary: The adopted amendments at *N.J.A.C.* 5:23-2.7, 2.17A, 6.8, 6.9, 12.1, 12.2, 12.3, 12.4, 12.8, and 12.12 address the adoption of ASME standards and alterations to elevators in the Elevator Safety Subcode. With the adoption of the 2006 International Building Code, the referenced elevator standards were updated. Also, the Rehabilitation Subcode (*N.J.A.C.* 5:23-6) and the Elevator Safety Subcode (*N.J.A.C.* 5:23-12) were updated.

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