

Construction Code Communicator



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Philip D. Murphy, Governor

Department of Community Affairs
Lt. Governor Sheila Y. Oliver, Commissioner

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Important Announcement: 2021 Building Safety Conference of New Jersey and Spring 2021 Seminars

Due to the ongoing pandemic and restrictions in place on gatherings and conferences, we would like to announce that the Building Safety Conference of New Jersey, usually held in May, has now been scheduled for September 8th, 9th and 10th, 2021 at the Hard Rock Hotel in Atlantic City. Please save the date, as we very much look forward to seeing you all in Atlantic City for great educational opportunities and to celebrate the code enforcement community that has done such an exemplary job during these difficult times to ensure the safety of the residents of the State of New Jersey!

Furthermore, please be advised that our continuing education program will continue to be **100% online** during the spring 2021 semester. There will be no face-to-face seminars in the spring. The semester will begin on or about the first week of March and continue through the month of June 2021. It is hoped that by expanding the semester schedule our officials can better achieve the goal of meeting their continuing education requirements to renew their licenses/certifications. A more specific announcement with details on classes and dates will be released in late January and, as we began doing in the fall, a mailer will be sent out directing people to our online catalogue.

Another quick reminder that it is **imperative** that we have your **correct and best email address** as we continue to try and serve our code enforcement community, as most, if not all, communications will be sent via email.

Thank you for the continued support shown to the Department and the Education and Licensing Units during this time! Up-to-date information is also available on our website at https://www.nj.gov/dca/divisions/codes/offices/licensing_cont_ed.html.

Source: John Delesandro
Supervisor of Licensing and Education
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Acceptance of ES-Reports to Comply With the Adopted Codes

There have been numerous inquiries on the acceptance of the ICC Evaluation Services Reports (ESR) to show compliance with the code. As per the Uniform Construction Code, N.J.A.C. 5:23-3.7, the ESRs are an acceptable method for compliance.

N.J.A.C. 5:23-3.7(a)2. Reports of engineering findings issued by nationally recognized evaluation service programs, such as, but not limited to, the Building Officials and Code Administrators (BOCA), the International Conference of Building Officials (ICBO), the Southern Building Code Congress International (SBCCI), the International Code Council (ICC), and the National Evaluation Service, Inc., shall be accepted by the appropriate subcode official as meeting the requirements of (a) above. The materials, equipment, or assembly shall be installed in accordance with the conditions specified in the report.

In order to determine if the report is acceptable, it must be determined if it is applicable to the code year in question and it has not expired. If the answer to both questions above is yes, and the report indicates compliance with the section in question, then this ESR meets the code and becomes another alternative to demonstrate compliance without further documentation. Keep in mind, all materials, equipment, and/or assemblies must be installed in accordance with the conditions specified in the report.

Note: An ESR is only one of the methods to show compliance; there are a multitude of others as specified in N.J.A.C. 5:23-3.7.

Source: Code Assistance Unit
(609) 984-7609

September 2020 Highlights of the New Jersey Construction Reporter

The following information is from the September 2020 Highlights. The New Jersey Construction Reporter is published on a monthly basis and includes highlights and summary data on building permits from local construction offices throughout the state. To view full reports, please visit <https://www.nj.gov/dca/divisions/codes/reporter/>.

Source: John Lago, Division of Codes and Standards
(609) 984-7609

September 2020

- \$1.387 billion of construction was authorized by building permits in September.
- New houses and home renovations accounted for \$706.2 million (50.9 percent) of the estimated dollar amount of construction authorized by all building permits in September.
- Office, retail, and other nonresidential work totaled \$680.8 million (49.1 percent).
- 502 building departments reported.

Year to Date

- The dollar amount of construction authorized by permits between January and September was \$11.186 billion. This was \$1.4 billion less than last year, a decline of 11.1 percent.
- 17,755 new houses were authorized between January and September 2020. New houses authorized between January and September 2019 totaled 21,997 (a decline of 4,242).

New House Prices

- 2,039 new houses began enrollment in a warranty program in third quarter 2020. One in five were in Ocean County. Half of the 2,039 new houses had a sales price at or above \$580,000. The median sales price of a new home in New Jersey increased by 7.4 percent compared to second quarter 2020.
- The most expensive new houses were in Bergen and Hudson Counties.
- Sale prices are provided by new home warranty companies. Most new, for-sale houses must have a warranty.

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(September 2020 Highlights of the New Jersey Construction Reporter)

Dollar amount of construction authorized by building permit type, September					
Source: New Jersey Department of Community Affairs, 11/09/2020					
Month	No. of municipalities reporting	Total	New construction	Additions	Alterations
	Jan		555		
Feb	551	1,356,000,962	618,316,162	168,579,850	569,104,950
Mar	549	1,682,716,464	1,069,884,508	93,835,848	518,996,108
Apr	531	759,070,003	346,327,969	58,069,446	354,672,588
May	537	1,064,975,813	416,370,290	94,353,926	554,251,597
Jun	532	1,247,542,332	516,045,711	98,658,969	632,837,652
Jul	529	1,305,515,314	567,225,989	118,006,595	620,282,730
Aug	518	1,185,225,806	512,187,864	99,353,374	573,684,568
Sep	502	1,386,944,567	582,617,422	133,725,734	670,601,411
Oct					
Nov					
Dec					
Total		\$11,185,907,104	\$5,089,502,697	\$962,762,958	\$5,133,641,449
Sept 2019	516	\$1,594,294,164	919,753,155	106,057,730	568,483,279
Jan - Sept 2019		\$12,611,680,343	5,584,923,782	1,118,688,991	5,908,067,570

Dollar Amount of Construction Authorized by Building Permits by Use Group, September 2020						
Source: New Jersey Department of Community Affairs, 11/09/2020						
Use Group	Permits	September		Permits	Year-to-Date	
		Estimated Construction Costs	Square Feet		Estimated Construction Costs	Square Feet
RESIDENTIAL	28,897	\$706,168,582	5,339,203	204,702	\$5,937,951,342	38,527,168
1 & 2 Family	27,094	501,239,997	3,221,327	191,713	3,529,074,152	22,094,401
Multifamily	1,803	204,928,585	2,117,876	12,989	2,408,877,190	16,432,767
NONRESIDENTIAL	4,608	680,775,985	4,877,191	38,094	5,247,955,762	26,070,213
Hotels, motels, guest houses	111	3,598,229	11,178	1,173	68,835,265	218,832
Assembly	269	90,731,406	74,164	2,515	579,646,410	1,319,248
Business / Office	1,500	199,741,141	291,861	12,874	1,561,278,462	3,139,040
Education	137	79,796,017	52,152	1,483	720,890,377	692,168
Hazardous uses	4	159,727	0	52	12,165,012	11,334
Industrial	55	41,527,325	131,583	434	277,889,686	1,767,070
Institutional	66	33,494,674	142,778	596	337,962,909	1,006,257
Retail	213	25,974,028	58,894	1,638	313,919,353	1,545,975
Storage	171	160,243,081	3,921,657	1,218	965,356,733	14,254,576
Signs, fences, miscellaneous	2,082	45,510,357	192,924	16,111	410,011,555	2,115,713
New Jersey	33,505	\$1,386,944,567	10,216,394	242,796	\$11,185,907,104	64,597,381
Sept 2019	30,226	\$1,594,294,164	10,568,580	284,786	\$12,611,680,343	72,826,126

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(September 2020 Highlights of the New Jersey Construction Reporter)

Big permits, 2020							
Construction Reporter, 11/09/2020							
municipality	county	permit no.	month	building use	permit type	dollar amt of construction	
Jersey City	HUDSON	20193344+C	03	R-2	NEW	\$400,949,780	351 Marin Blvd, 38 story, 507 units
Hackensack	BERGEN	00020191101U	10	I-2	NEW	144,336,221	Hackensack University Med Ctr; 2nd St Pavilion; update from 8/19
Jersey City	HUDSON	20200719	02	R-2	NEW	123,263,250	315 15th St, 26 story, 350 for sale dwellings
Jersey City	HUDSON	20193148+B	03	R-2	NEW	102,649,500	184 Morgan St / 331 Marin Blvd; 41-story 482 rental units; broke ground 8/19
Princeton	MERCER	000020200464	05	R-2	NEW	98,081,500	Princeton University,dormitory
Princeton	MERCER	00020200464U	10	R-2	NEW	83,497,840	\$83 million update to Princeton University dormitory
Logan Two	GLOUCESTER	202000124	04	S-1	NEW	73,107,000	Greek Development, Target distribution warehouse, Racon Creek
Harrison Town	HUDSON	00020200063U	06	R-2	NEW	71,608,321	200 Angelo Cefelli Dr; 381 dwellings; broke ground 3/20
Jersey City	HUDSON	20192382+d	03	R-2	NEW	69,000,000	380 Skinner Memorial Dr
Lawrence	MERCER	000020201342	10	E	NEW	66,055,630	Lawrenceville School, dining hall & athleti center; 25 Main St
Hoboken	HUDSON	20200232	02	R-2	NEW	65,800,000	Capital Point, student housing Stevens Institute, two towers; 18 & 21 stories
Secaucus	HUDSON	20-295	07	R-2	NEW	65,188,000	2000-5000 Brianna Ln; 25-story, 403 apts;
Woodbridge	MIDDLESEX	000020202340	10	R-2	NEW	61,056,079	mixed-use, 7-story building with 279 apts, retail, & parking; 10 Main St
Newark	ESSEX	20CP000334+A	04	A-3	NEW	60,950,000	update, Essex Co courthouse
Atlantic City	ATLANTIC	20084003	09	A-3	NEW	60,000,000	500 Boardwalk; ACOWE LLC; Ocean Casion Resort
Newark	ESSEX	20CP000334	02	A-3	NEW	54,756,195	484-87 MLK Blvd, Essex Co Court House; A-3; B
Union Twp	UNION	20595	05	R-2	NEW	51,321,500	Vermella at Union ; mixed use, 459 apartments, 3 Vermella Wa
Carneys Point	SALEM	000020200260	09	S-1	NEW	44,600,000	Amazon warehouse; 747 Courses Landing Rd
Jersey City	HUDSON	20193743+A	05	R-2	NEW	43,555,000	13 & 35 Carbon Pl; New Jersey City University, 198 units
Mansfield	BURLINGTON	19-385+K	08	E	NEW	40,390,000	Northern Burlington Regional high school
Middletown	MONMOUTH	000020201837	08	B	NEW	38,800,000	Middletown municipal complex
Newark	ESSEX	20CP001362	08	S-1	NEW	38,324,000	warehouse, 173-269 Doremus Av, Continental Oil
Montgomery	SOMERSET	000020201197	10	B	NEW	33,475,000	Orchard Rd, new municipal bldg, library, police sation
Orange	ESSEX	20-6004	02	E	ADD	32,613,000	380 Central Av, addition Orange public school
Montvale Borough	BERGEN	000020200205	06	R-2	NEW	30,615,238	Northend, mixed use, 156 apts; 3 Mercedes Dr
Franklin Twp	SOMERSET	20-02101	09	S-1	ALT	30,100,000	warehouse renovation; 601 Randolph Rd
Franklin Lakes Borough	BERGEN	000020200097	02	I-2	NEW	29,600,000	724 Franklin Av; assisted living & parkding deck (S-2); Sunrise
Woodbridge	MIDDLESEX	000020201039	05	F-1	ALT	29,285,373	Arizon Iced Tea plant, 1 Arizona Way, F-1, S-1, & B
South Amboy	MIDDLESEX	00020200137U	09	R-2	NEW	28,953,133	Manhattan Beach Club; Radford Ferry Rd; 400 dwellings broke ground 6/20
Bridgeton	CUMBERLAND	20-0126-03	03	I-3	NEW	28,000,000	county jail
West New York	HUDSON	20200258	06	R-2	NEW	25,824,000	4901 Bergenline Av; 97 apts
Jersey City	HUDSON	20201989	08	R-2	NEW	25,800,000	Monitor St; 114 rental units
Robbinsville	MERCER	000020200276	05	S-1	ALT	25,424,395	Amazon warehouse, conveyor system, 18 Applegate Dr.
Jersey City	HUDSON	20201685	07	R-2	NEW	25,101,742	26-28 Cottage St; Namder Group, 166 for salue units
Montvale Borough	BERGEN	000020200386	09	R-2	NEW	21,712,600	Northend; bldg 3; 152 apts
Summit	UNION	201971918+C	10	S-2	NEW	20,568,000	Celgene pharmaceutical, 556 Morris Av
Neptune Twp	MONMOUTH	20191335+B	03	R-2	NEW	20,548,325	740 Wayside Rd, My Place, 19 apts broke ground 11/19
Summit	UNION	202072886	06	S-1	NEW	20,515,500	Celgene Corp, 556 Morris Av
Jersey City	HUDSON	20193148+F	08	R-2	NEW	20,404,000	update; 184 Morgan St / 331 Marin Blvd; 41-story, 482 rental units, mixed use, broke ground 8/19
Piscataway	MIDDLESEX	20201278	07	F-1	NEW	20,352,696	622,000 sf, mixed use bldg; industiral and office space; 150 Old New Brunswick Rd
Mountain Lakes Borough	MORRIS	20-027	01	I-2	NEW	20,288,797	medical lab, 1 Bloomfield Av
Secaucus	HUDSON	20-163	04	B	ALT	20,230,000	2 Emerson Ln; Secaucus Data Ctr Bldg; CoreSite data collection
Hackensack	BERGEN	00020191101U	10	I-2	NEW	20,099,000	Hackensack University Med Ctr; 2nd St Pavilion; update from 8/19
Toms River	OCEAN	19-04644	01	I-2	ALT	20,096,256	Community Medical Center, ER renovation, 99 Rte 37 W
Belleville	ESSEX	19-01297+B	05	R-2	ALT	20,000,000	81-179 Belmont Av, 132 rental units, broke ground 12/19
Voorhees	CAMDEN	20-0341	05	I-2	ADD	19,342,100	Virtua hospital addition & renovation , 100 Bowman Dr, proton therapy ctr
Belleville	ESSEX	19-01298+A	05	R-2	ALT	19,000,000	81-179 Belmont Av, 100 rental units, broke ground 12/19
Edison	MIDDLESEX	000020202976	09	S-1	NEW	18,987,637	11 C Court South; general spec warehouse distribution center
Jersey City	HUDSON	20202206	09	R-2	NEW	18,920,000	Parkway Apts; 170 units; 87 Van Horne St; Wallabout Realty Holdings LLC
Hackensack	WARREN	20-061	02	F-1	ADD	18,450,000	700 High St; Food Mfgs Inc
Jersey City	HUDSON	20202535	10	R-2	NEW	18,000,000	413 Summit Av; 18 story condo bldg
Newton	SUSSEX	000020205146	06	F-1	NEW	17,573,600	Natural Selections LLC / Thorlacs, 4 Diller Av
Woodbridge	MIDDLESEX	000020201477	07	R-2	NEW	17,545,000	55 Brook St Apts, Woodbridge Housing Authority
Jersey City	HUDSON	20192382+H	03	R-2	NEW	17,000,000	380 Skinner Memorial Dr
Plainsboro	MIDDLESEX	000020200764	08	E	ADD	17,000,000	Community Middle School, 95 Grovers Mill Rd
Union Twp	UNION	20811	06	R-2	NEW	17,000,000	1255 Magie Av Apts, RMS Companies LLC; 153 units
Warren	SOMERSET	20-0118	02	B	ALT	16,974,458	200 Warren Corp Ctr Dr
North Brunswick	MIDDLESEX	20200718	07	R-2	NEW	16,594,002	Amaranth apt complex; 2701-03 Rte 130; 111 apt units; bldg B
North Brunswick	MIDDLESEX	20200717	07	R-2	NEW	16,586,792	Amaranth apt complex; 2701-03 Rte 130; 111 apt units; bldg A
Wayne	PASSAIC	20200016	01	M	ALT	16,505,300	Whole Foods, fit up; Valley Ridge Shopping Center 580 Valley Rd
West Orange	ESSEX	000020201354	09	B	NEW	16,060,000	555 Northfield Av; mixed-used bldg with 70 condo units on site of demolished hotel

Lateral Deck Connection – 2018 Update

We've written about this topic a few times (Winter 2018, Fall 2011) and originally, there was a "Dear Construction Official" letter issued by then-Director William Connolly.

The International Residential Code (IRC)/2015 (and previous editions), as amended by N.J.A.C. 5:23-3.21, did not require the SPECIFIC deck attachment(s) for lateral loads as demonstrated in Figures R507.2.3(1) and R507.2.3(2), Deck Attachment for Lateral Loads, of the IRC/2015. This is because these figures are rooted in Federal Emergency Management Agency (FEMA) 232, entitled "Homebuilders' Guide to Earthquake Resistant Design and Construction," and is clearly a seismic requirement. Section R301.2.2, Seismic Provisions, of the IRC/2015, again as amended by N.J.A.C. 5:23-3.21, states "Detached one-and two-family dwellings and attached single family townhouses are exempt from the seismic requirements of this code."

Based on this, a lateral connection is required, but those specific lateral deck attachments like the ones illustrated in Figures R507.2.3(1) and R507.2.3(2) are not required for a detached one- or two-family dwelling or attached single family townhouse in New Jersey that is designed and built in accordance with the IRC/2015.

Please note that the 2018 edition of the IRC at Section R507.9.2 has been updated and uses the words, "Where the lateral load connection is provided in accordance with Figure R507.9.2(1)..." On the national level, they corrected this oversight and IRC/2018 now states generically that the lateral load connection is required AND then states, if the designer OPTS to use one of the two illustrated deck connections (e.g. where provided), this is how they are to be installed. Otherwise, the designer can demonstrate the lateral load connection/attachment generically.

Source: Rob Austin, Code Assistance/Development Unit
(609) 984-7609

UCC – Basics, Errata, and Updates

When trying to determine if a specific code section is applicable to any given project, the first question one should ask is, "*Am I in the correct book?*" The configuration of New Jersey's construction codes is similar to that of a pyramid. At the top is the Uniform Construction Code (UCC), N.J.A.C. 5:23. In other words, the UCC should always be the starting point for every project. The second question one should ask is, "*How did I arrive at this code section?*" The only way to know for sure if and when a code section applies is by following the link from one code book to the next. Skipping these steps could produce inaccurate results. Since the construction codes are constantly evolving, get in the habit of always getting back to basics. Here are some simple tips to help you stay on track:

Tip # 1 - UCC compared to Uniform Fire Code (UFC), N.J.A.C. 5:70:

The UCC model code adoption history can be found at https://www.nj.gov/dca/divisions/codes/codreg/pdf_regs_former/NJ_Model_Code_Adoptions.pdf and provides the codes in effect since January 1, 1977, the beginning of the UCC. Any structure built on or after that date, in compliance with the codes that were/are in effect at that time, may continue in use, in accordance with N.J.A.C. 5:23-6.2(c) & (f).

Although the UFC applies to both "new and existing, uses and conditions" as specified under N.J.A.C. 5:23-1.4(a), it also enforces what are known as "retrofit provisions" that may be applied to all structures built before the adoption of the UCC. For more information regarding the UFC, please contact the Division of Fire Safety at (609) 633-6106 or visit <https://www.nj.gov/dca/divisions/dfs/contact/>.

Tip # 2 - UCC updates to "The Blue Book":

Unlike the referenced model codes adopted as subcodes, N.J.A.C. 5:23-3.4, which typically get updated/adopted once every three years, and the UCC in general may be updated at any time. When an update to the UCC occurs, active subscription members receive updated pages by mail. After the pages in the UCC books are replaced, it is advised that the old pages are attached to the cover sheet of the update and kept for historical reference. The DCA website provides free access to the most up to date version of the UCC at <http://www.nj.gov/dca/divisions/codes/codreg/ucc.html>.

Tip # 3 - Subcodes for "new construction", use the edition currently adopted:

Under Subchapter 3 of the UCC, you can find the current adopted "subcodes". In addition, free access to these codes is provided through the DCA's Codes and Regulations page, <https://www.nj.gov/dca/divisions/codes/codreg/>.

(continued on next page)

(UCC – Basics, Errata, and Updates)

Tip # 4 - Errata updates:

If and when it is determined that a publishing error exists in the model codes, errata pages are published by the model code organization which displays the corrected information. For example, the International Code Council (ICC) contains a website dedicated to this, <https://www.iccsafe.org/errata-central/>. Based on your “printing services” you may want to download and print these updates, then mark/replace the old pages. On the State level, if an NJ edition is updated due to a change in the administrative code (e.g. subcode, as described in # 3 above), the DCA offers updated pages at <https://www.nj.gov/dca/divisions/codes/codereg/> as a State errata, which overlays and supersedes the model code errata. If you see a posted errata listed within your applicable subcode, click on the link and print out the page(s) so you can update your code book.

Tip # 5 - Reference Standards, use the applicable “effective date” noted for that standard:

Similar to Subcode adoptions, reference standards also get updated. The Reference Standards chapter can be found near the end of each model code book where the edition for the standard is listed; for example, Chapter 11 of the IBC/2018 references the ICC A117.1 and when you review Chapter 35, you find it is the 2009 edition. This ensures compatibility between the applicable Subcode and Reference Standard being utilized. An example related to ASCE standards can be found on page 11 of the Construction Code Communicator (CCC) article from Summer/2020, titled “Ground Snow Loads and Case Study Areas” (https://www.nj.gov/dca/divisions/codes/publications/pdf_ccc/CCC_Smr_2020.pdf).

Tip # 6 - Existing Structures, start in Subchapter-6 Rehabilitation Subcode of the UCC:

Subchapter 6 of the UCC can often be a challenge to navigate, but if users stick to the guidance provided by “Bulletin 98-1 Rehab Subcode Matrix”, the specific sections to be applied for any given project can be identified. In addition, one should visit <https://www.nj.gov/dca/divisions/codes/offices/rehab.html> for the history of the subchapter and other useful information. It should be noted that, **for existing structures, subchapter 6, the Rehabilitation subcode, is the starting point for any project.** The only time current code standards are required is when the rehabilitation subcode provides a direct link to the applicable code. If a link cannot be provided from Subchapter 6, current code standards are not required for compliance.

Tip # 7 - NJ amendments, make note of modification and deletions:

Some model codes adopted by NJ provide links to other standards that are to be followed and may list sections or portions of those codes that are modified to conform with NJ-specific requirements. Here are some examples:

- International Swimming Pool and Spa Code (ISPSC): Users are directed to the ISPSC for design and construction from either the 2018/IRC Section R326 or 2018/IBC Section 3109, which identify all NJ-specific amendments/modifications applicable to NJ.
- ICC/ANSI A117.1-2009, Accessible and Usable Buildings and Facilities: Users are directed from the 2018 IBC Section 1102, Compliance, to the ICC/ANSI A117.1-2009 standard and to which sections are amended.

Source: Keith Makai
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The Construction Code Communicator is an online publication of the New Jersey Department of Community Affairs' Division of Codes and Standards. It is typically published four times a year.

Copies may be read or downloaded from the division's website at: www.nj.gov/dca/divisions/codes.

Please direct any comments or suggestions to the NJDCA, Division of Codes and Standards, Attention: Code Development Unit, PO Box 802, Trenton, NJ 08625-0802 or codeassist@dca.nj.gov.

HVACR Update and the Creation of the Board for Master Hearth Specialists

It took more than four years to get the HVACR license requirement in the UCC. Finally, it happened. The Heating, Ventilating, Air Conditioning, and Refrigeration Contractors (HVACR) license has finally been **ADOPTED** as of October 5, 2020. Please refer to the New Jersey Register, Monday, October 5, 2020 (CITE 52 N.J.R. 1821), Adopted Amendments: 5:23-2.15 and 2.15A.

This adoption now requires that a permit for any HVACR projects can only be applied for by NJ Licensed HVACR contractors and by an NJ Licensed Master Plumber for heating pertaining to boilers and hydronic piping systems. A permit for natural or LP gas piping systems can only be applied for and installed by an NJ Licensed HVACR or an NJ Licensed Master Plumber.

With this adoption, a person with a HIC registration will no longer be able to apply for a permit to install HVACR equipment and systems and no longer able to install gas piping systems, whether natural or LP gas systems. A homeowner is still exempt from the above regulations, except for the refrigerate for the air conditioning and condensing unit, wherein the refrigerate must be installed by a State Licensed HVACR contractor.

There are two exceptions to the gas piping installations: there is a new Board for Master Hearth Specialist (MHS) that is issuing licenses for their profession. The Board is overseen by the HVACR Board, and an MHS may install gas piping to their equipment as specified in their licensing regulations. Additionally, a Licensed Electrical contractor will be permitted to install gas piping to their electric generators pursuant to the Master Hearth Specialist Law at N.J.S.A. 45:16-41*, et seq.

The new MHS licensed contractors will be issued a license card but will not be issued a seal. Therefore, when a permit application is submitted for hearth equipment and gas piping to their equipment, the MHS must provide a copy of their license in order to obtain the permit. To date, there are a limited number of MHS that are licensed in the State.

Without the MHS license, they will not be able to install the gas piping and must utilize the services of a State licensed HVACR contractor or master plumber to obtain the permit and install the gas piping. Until such time that the MHS licensure regulations are adopted, an MHS will be permitted to apply for a permit for their work utilizing a HIC registration, excluding gas piping, which must be installed by an HVACR contractor or master plumber.

The question is "**What is the Licensed Master Hearth Specialist Advisory Committee?**"

The Licensed Master Hearth Specialist Advisory Committee, established pursuant to N.J.S.A. 45:16A-29, is an advisory committee to the State Board of Examiners of Heating, Ventilating, Air Conditioning and Refrigeration Contractors tasked with the responsibility of licensing Master Hearth Specialists and regulating Hearth Professional Work in the State of New Jersey. Hearth professional work includes the installation, replacement, connection, venting, inspection, repair, maintenance, or servicing of hearth product appliances, barbecue appliances, outdoor patio appliances, and decorative space heaters and includes the installation, inspection, repair, or servicing of natural or manufactured gas piping on the load side of a meter.

Source: Thomas Pitcherello
Code Assistance Unit
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** originally posted incorrectly with 45:14C-1*

Protection of Adjoining Property and Street Lot Lines for One- and Two-Family Dwellings

This article is to inform builders and code officials of the proper regulations regarding safeguard protection surrounding a new one-and two-family dwelling jobsite to adjoining properties, in accordance with N.J.A.C 5:23-2.34, Protection of adjoining properties and public rights of way.

5:23-2.34(b) - The measures to be taken to safeguard adjoining properties or public rights of way shall be submitted with the permit application for review and approval by the construction official. For projects undertaken using partial filing or partial releases, such measures shall be submitted for review and shall have been approved prior to the issuance of a construction permit for the portion of the work requiring the safeguarding of adjoining properties or public rights of way. Effective March 18, 2018:

1. Sections 3302, 3303, 3304, 3306, 3307, and 3308 of the building subcode shall be used as the minimum safeguards for all buildings and structures regulated by the one- and two-family dwelling subcode.

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It is important to provide the code official with measures that will be taken to safeguard adjoining properties or public rights of way with the permit application. And likewise, it is important for the code official to review these measures before the approval of the application to avoid any confusion during the project. All too often the Code Assistance Unit receives complaints from builders stating that the code officials are asking for extensive barriers that do not fit into their budget.

You will notice that N.J.A.C. 5:23-2.34(b)1. references sections 3302, 3303, 3304, 3306, and 3308 of the *International Building Code* (IBC) to be used as a minimum safeguard for one and two-family dwellings. Quite often, Section 3306.9, Adjacent to excavations causes some confusion:

3306.9, Adjacent to excavations - Every excavation on a site located 5 feet (1524 mm) or less from the street lot line shall be enclosed with a barrier not less than 6 feet (1829 mm) in height. Where located more than 5 feet (1524 mm) from the street lot line, a barrier shall be erected where required by the building official. Barriers shall be of adequate strength to resist wind pressure as specified in Chapter 16.

Builders often ask, why is the code official asking for a chain link fence, 6-feet in height? You will see this stems from section 3306.9. If you are 5 feet or closer to a street lot line the excavation shall be enclosed with a barrier not less than 6 feet in height. If the excavation is located greater than 5 feet from the edge of a roadway, the building official must evaluate the level of hazard to the public and the necessary precautions to take. As such, the building official has the authority to order the construction of a structural barrier that is capable of handling and resisting design wind loads. If the building official deems the hazard as low, for example, a typical silt fence may be acceptable.

Source: Adam Matthews, Code Assistance Unit
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Manual J, D, and S Help

Since the adoption of the 2000 International Residential Code (IRC), Section M1401.3, [Equipment and appliance] Sizing, has included a reference for compliance with “ACCA Manual J or other approved heating and cooling calculation methodologies.” This requirement for compliance remains in the 2018 IRC, which relates to the heating and cooling equipment sizing base on building load calculation. The 2018 edition contains a direct link to Manual S in the same section and a reference to Manual D is directly linked at Section M1601.1, Duct design, both originally linked via only Manual J.

That being said, the Air Conditioning Contractors of America (ACCA) knows it is a lot of information to absorb and wants to help contractors comply and want to help code officials understand heating, venting, and air conditioning (HVAC) better. In order to do so, ACCA provides the following website: <https://www.acca.org/standards/codes#contractors>.

Under the heading of “Information for Code Officials,” you will find the related items:

- [Residential System Design Review Form for Code Offices](#) - ACCA provides a “review form” that can serve as the cover page to a contractor’s permit submission. Blank forms, completed examples, and instructions to contractors are provided.
- [Brochures for Code Officials](#) - ACCA has developed several brochures which help code officials verify residential load calculations, duct design and equipment selection in accordance with Manuals J, D, and S. While it’s not practical for code officials to verify every single aspect of these submissions, these brochures offer checklists for a simplified verification process.
- [Load Calculation Software](#) - A warning notice for code officials about the dangers of inappropriate software.
- [Case Study \(Bob’s House\)](#) - A case study for understanding the residential HVAC design process as described in the ACCA residential technical manuals. The book begins with the building plans and follows the process through the completion of the system design. Also included are useful appendices that explore what would happen to Bob’s house in other scenarios. Other appendices discuss different equipment types, duct challenges, and an illustrative example of how information might be presented for a permit application.
- [Training for Code Officials via online videos](#) - ACCA has developed a three-part video series that aims to help code officials better understand the three main aspects of a proper residential HVAC system design: a load calculation, selecting the appropriate equipment, and proper duct sizing. The bases for the videos are the code-referenced ACCA Manual J, Manual S, and Manual D. The videos do not comprise a design course, but instead provide an overview of the design process and presents ACCA-recommended verification points. This will better enable code officials to verify that a system was designed correctly.

Source: Rob Austin, Code Assistance/Development Unit
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Mixed Use and Occupancy Buildings

Often, the Code Assistance Unit receives inquiries referring to the separation of a mixed-use building. And before we dive into the meat and potatoes, just a quick note: as the title says, mixed-use... as in a building with different uses/occupancies under one roof (e.g. B-use below R-use) and not multiple tenants of the same occupancy (e.g. strip mall of retail, M-use). Now, onto the main dish.

The requirements for the separation of occupancies are found in Section 508 of the 2018 International Building Code (IBC), minus the three exceptions noted at Section 508.1. The section then provides the options set forth in proper separation, wherein some cases may not constitute a "full" separation. Let me explain...

Option #1 - (508.2) Accessory occupancies

Accessory occupancies (see conditions below) are not required to be separated from the main occupancy of the building with the exceptions of groups H-2, H-3, H-4 and H-5, in which section 508.4 shall be followed as well as groups I-1, R-, R-2 and R-3, in which dwelling units and sleeping units shall be separated from other dwelling and sleeping units, and from accessory occupancies contiguous to them in accordance with the requirements of Section 420, as per Section 508.2.4. In application, the conditions below must be followed in order to be considered an accessory occupancy:

- Condition #1: As per Section 508.2, Accessory occupancies must be ancillary to the main occupancy of the building or portion thereof. To elaborate further, the activities that occur in the accessory use areas must be necessary for the principal occupancy to properly function and would not otherwise reasonably exist apart from the principal occupancy.
- Condition #2: As per Section 508.2.1, Accessory occupancies shall be individually classified in accordance with Section 302.1.
- Condition #3: As per Section 508.2.2, the allowable height of the number of stories of the building containing the accessory occupancies shall be in accordance with Section 504 for the main occupancy of the building. For example, Table 504.4 would allow a non-sprinklered group M store of Type IIA construction to be four stories. A group A-3 lunchroom in that same building would be limited to locations on the lowest 3 three floors. However, an accessory group A-3 lunchroom for employees would be considered part of the group M occupancy for the determination of allowable height. Therefore, there could be a lunchroom on all 4 stories.
- Condition #4: As per Section 508.2.3, the AGGREGATE accessory occupancy shall not be more than 10 percent of the floor area of the story in which they are located and shall not exceed the tabular values for non-sprinklered buildings in table 506.2 for each such accessory occupancy. Please note the word **aggregate**; if more than one accessory occupancy is applied, the areas would have to be added together and not exceed 10 percent of the main occupancy's floor area.

Option #2 - (508.3) Nonseparated occupancies

This design element allows for the design of more than one occupancy to a building without any physical separation with any type of fire-resistance-rated assembly. Again, this cannot be applied to group H which shall be separated from all other occupancies in accordance with Section 508.3.3 exception 1 as well as Groups I-1, R-, R-2 and R-3 in which dwelling units and sleeping units shall be separated from other dwelling and sleeping units and from accessory occupancies contiguous to them in accordance with the requirements of Section 420 as per exception 2 of Section 508.3.3. Now for its application:

- Condition #1: All occupancies in the building must be classified using Section 302.1
- Condition #2: Compare the minimum type of construction for all uses based on the area and height of each occupancy and then apply the highest type of construction for the entire building.
- Condition #3: Apply the most restrictive provisions of Chapter 9 throughout the building containing nonseparated occupancies. For example, there is a building containing nonseparated occupancies with a total of 15,000 sq. ft. with three Group B tenant and one Group A-3. Since the maximum fire area for an A-3 is 12,000 square feet, in accordance with Section 903.2.1.3, which in turn, requires not just the A-3 to have an automatic sprinkler system installed, but the entire building.
- Condition #4: Calculate the height and area; the most restrictive requirements of Tables 504.3, 504.4 and 506.2 along with the type of construction shall apply to each nonseparated occupancy.
- Condition #5: All specific requirements found within the code for each individual occupancy shall apply (e.g. means of egress) except for Chapter 9 and Section 403.

Note 1 - For high-rise buildings, apply the most restrictive provisions for each nonseparated use found in Section 403.
 Note 2 - For group I-2, Condition 2 occupancies (Section 508.3.1.2), refer to Sections 407, 509 and 712; the most restrictive provisions apply.

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(Mixed Use and Occupancy Buildings)

Option #3 - (508.4) Separated occupancies

Finally, if the other two above cannot be applied, this “option” defaults to the original intent. Here, we physically separate the different occupancies using Table 508.4 with fire barrier walls and horizontal assemblies in accordance with Sections 707 and 711. Here’s how to apply:

- Condition #1: All occupancies in the building must be classified using Section 302.1
- Condition #2: Separate the occupancies in accordance with Table 508.4.
- Condition #3: Apply all code requirements for each separate occupancy or occupancies present. Table 508.4 may not require separation between certain occupancies. If that is the case, all nonseparated occupancies shall be calculated together in the terms of area, height and fire area and the most restrictive provision shall apply.
 - Note - Table 508.4 is not intended to separate fire area. As per 707.3.10, when separating fire areas of mixed occupancies, they shall have a rating not less than the highest value indicated in Table 707.3.10 for the occupancies under consideration.
- Condition #4: Calculate the height and area; the most restrictive requirements of Tables 504.3, 504.4 and 506.2 along with the type of construction shall apply to each separated occupancy.
 - Note - In each story, the building area shall be such that the sum of the ratios of the actual building area of each separated occupancy divided by the allowable building area of each separated occupancy shall not exceed 1.

With the growing number of mixed-use buildings we feel that it is important for designers and code officials to understand these different options and not immediately jump to Table 508.4 for separation purposes. The IBC gives you options, so use them accordingly.

Source: Adam Matthews
Code Assistance Unit
(609) 984-7609

I-Code Cross References

There are times when model codes make references to items that may not be specific to New Jersey. To explain, let me provide a couple of examples.

Example #1: As you know, N.J.A.C. 5:23-3.14 adopts the International Building Code/2018 as the building subcode. Within this subcode, Section 1202.2.1 exists for “Ventilated Attics and Rafter Spaces.” Note that the exception, which permits the reduction of the net free cross-ventilation to 1/300 from 1/150, if the two conditions are met. The first condition states:

1. In Climate Zones 6, 7 and 8, a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.

As a reminder, New Jersey is climate zones 4A and 5A, so you can disregard the installation-specific standard at #1. Therefore, the exception should be applied using just item #2.*

→ **Note: A similar provision is within the International Residential Code/2018 at Section R806.2.**

Example #2: Moving on to N.J.A.C. 5:23-3.21, the One- and Two-family Dwelling Subcode, aka the International Residential Code/2018, we’ll look at Section R403.1.6, “Foundation Anchorage.” It seems to be a common practice these days for designers to use 3 x 3 x 3/16” washers with anchor bolts for the attachment of wood sill plates to foundations. We have received calls from builders that do not do this and the local code official issues a violation for only having a standard washer. Note that R403.1.6 does **not** specify the size of the washer, only the diameter of the anchor bolts at a minimum of a ½”. The misapplication of the 3 x 3 plate washers comes from Section R403.1.6.1, “Foundation Anchorage in Seismic Design Categories C, D0, D1 and D2,” which at #1, refers to Section R602.11.1, “Wall Anchorage for all buildings in Seismic Design Categories D0, D1 and D2 and townhouses in Seismic Design Category C.” However, if you jumped to any seismic provision within the one- and two-family dwelling subcode, you missed the starting point at Section R301.2.2, Seismic provisions. Pursuant to N.J.A.C. 5:23-3.21(c)3iv, dwelling/homes subject to this code are exempt from the seismic requirements.

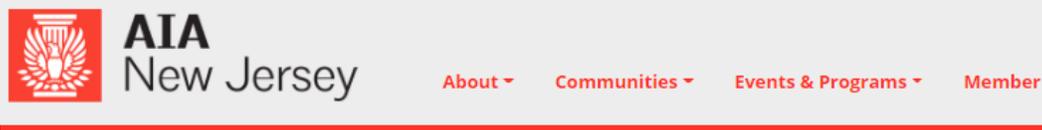
Moral of the story: make sure the items within the code apply in the State. Keep in mind, the codes are intended to be used internationally, so some provisions may not apply.

Source: Adam Matthews
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** revised April 2021*

Congratulations to Robert Austin, AIA New Jersey Resident of the Year

Robert Austin of our Code Assistance Unit was awarded the AIA New Jersey Resident of the Year Award. The AIA NJ Resident of the Year Award recognizes individuals who have demonstrated exceptional leadership and made significant contributions to the architecture profession.



November 4, 2020

The American Institute of Architects New Jersey Chapter Announces its 2020 Service Award Winners

It is with great pleasure that AIA New Jersey shares with you the recipients of this year's Service Awards.

The 2020 Winners



Firm of the year: **Mills + Schnoering**

Mills + Schnoering (M+Sa) has built upon a rich legacy of architectural design and historic preservation excellence throughout the region, and increasingly, on the national stage.

Resident of the year: **Robert Austin**

Life safety is the essence of an architect's responsibility. Rob Austin provides essential code guidance to architects across New Jersey via his insightful writing, presentations, and consultation.

Distinguished Service Award: **Roger Smith, Assoc. AIA**

Roger's leadership, experience, passion and energy for the architecture profession has allowed him to take on tomorrow's challenges and move us forward through the power of design.

Associate AIA of the Year: **Dana Nalbantian, Assoc. AIA**

Completing more than 20 million square feet throughout her career, Dana exemplifies commitment to the architecture and design industry. Through her service and her projects, she has raised the bar for the build environment.

Young Architect of the Year: **LoriAnne Jones, AIA**

LoriAnne's love of architecture is matched only by her passion for service. As an advisor to clients, a resource to colleagues, and a guidepost to mentees, LoriAnne's work serves to further the profession.

Please join us in congratulating him for his work over the years. To view the full website for the 2020 Service award winners, please visit <https://aia-nj.org/blog/2020/11/04/the-american-institute-of-architects-new-jersey-chapter-announces-its-2020-service-award-winners/>.

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