

Construction Code Communicator



State of New Jersey
Philip D. Murphy, Governor

Department of Community Affairs
Jacquelyn A. Suárez, Commissioner

Volume 36, Number 3

Fall 2024

UCC Summary of Rule Changes – Summer 2024 Update

August 5, 2024, *New Jersey Register*

N.J.A.C. 5:23-3.2 and 5.3 – This Notice of Administrative Correction to the Uniform Construction Code corrects errors at N.J.A.C. 5:23-3.2, Matters covered; exceptions, and N.J.A.C. 5:23-5.3, Types of licenses and certifications. Specifically, these errors remove and replace obsolete model code table and section references with the appropriate model code references.

→ for more information, please see the “August 05, 2024” row at
https://www.nj.gov/dca/codes/codreg/rule_proposals_adoptions.shtml

















August 19, 2024, *New Jersey Register*

N.J.A.C. 5:23-3.14, 3.17, 3.18, 3.20, 3.21, 4.18, 4.19, 4.20, 5.2, 5.4, 5.5, 5.21, 6.6, 6.7, 12A.3, 12A.4, 12A.5, and 12A.6; N.J.A.C. 5:23-6.3A, 6.8, 6.9, 6.21, and 6.31 – These Notices of Administrative Correction to the Uniform Construction Code correct various errors throughout N.J.A.C. 5:23. These errors are administrative in nature and primarily concern the removal and replacement of obsolete section references, section and chapter titles, and references to the previous name of the Division of Codes and Standards.

→ for more information, please see the “August 19, 2024” row at
https://www.nj.gov/dca/codes/codreg/rule_proposals_adoptions.shtml

Source: Code Development Unit
(609) 984-7609

In This Issue

Blocked Vent Switch 	9	The Tracer Wire Goes Where? 	16
Clarification on Inspection Requirements and Citations 	2	UCC Summary of Rule Changes – Summer 2024 Update 	1
Emergency Escape and Rescue Openings in Group R-2 Buildings  	7	Understanding the UCC: Basics, Errata, and Updates 	2
Office Partition Code Requirements 	4	Visible Alarm Notification Appliances in R-2 Dwelling and Sleeping Units – IBC/2021 and ICC/A117.1-2017  	7
Street Frontage Increase: Detached One- and Two-Family Dwellings  	6	Visible Alarm Notification – IBC/2021 and ICC/ANSI A117.1-2017  	8
Tempered Safety Glazing Identification 	5	When to Use the Mechanical Technical Section: Revisited 	9

Clarification on Inspection Requirements and Citations

As I'm sure many of you are aware, on April 1st this year, the Uniform Construction Code (UCC) was amended to incorporate the provisions of P.L. 2022, c. 139. This law, which concerns the use of supplemental private on-site inspections agencies, includes amendments and additions to inspection requirements in N.J.S.A. 52:27D-119, the State Uniform Construction Code Act (UCC Act). Below is one such addition, located at N.J.S.A. 52:27D-132e.1:

- (1) The owner, agent, or other responsible person in charge of work shall be present and prepared at the time of any inspection that has been scheduled upon the owner, agent, or other responsible person's request. A failure by the owner, agent, or other responsible person in charge of work to be present and prepared for inspection shall be considered a failed inspection.

Now, you might be asking yourself, "Why is he bringing this up?" Well, while this inspection requirement is New Jersey statute, this specific language is not (yet) incorporated into the UCC, N.J.A.C. 5:23. Because of this, we need to make the point that this is law and enforceable. While it may not be currently in the UCC, you may always cite the law (N.J.S.A.) for items that are allowed to be codified in the administrative code (N.J.A.C.). In other words, if a local enforcing agency finds themselves in this specific predicament, they would cite the law and specific section, as part of the UCC Act, N.J.S.A. 52:27D-132e.1.

Hopefully, this clears up any confusion regarding the statute and the administrative code, you can find the citation in the following link to the UCC Act:

https://www.nj.gov/dca/codes/codreg/pdf_regs/52_27D_119.pdf (see page 144).

Source: Ian Rayfield
Code Development Unit
(609) 984-7609

Understanding the UCC: Basics, Errata, and Updates

When working on a construction project, the first question you should ask is, "Am I using the right code?" In New Jersey, construction codes are structured like a pyramid, with the Uniform Construction Code (UCC) at the top (N.J.A.C. 5:23). The UCC is your starting point, and it connects to other relevant codes. Always follow these links to ensure you're using the correct codes, as skipping steps can lead to errors. Here are some key tips to help you stay on track:

Tip # 1. Keep Your UCC Updated

Make sure your UCC is current. Previously, hard copies of the UCC (often called the "Blue Book") could be purchased, but after June 6, 2023, these are no longer available. Instead, you can view, download, and print the UCC, including updates, for free online at <https://www.nj.gov/dca/codes/codreg/ucc.shtml>; see "Related Links" on this page for more information regarding updates and how to view the UCC online.

Tip # 2. Errata: Correcting Publishing Errors

When errors are found in the model codes, errata pages are published to correct them. For instance, the International Code Council (ICC) has a dedicated page for errata: <https://www.iccsafe.org/errata-central/>. Be sure to download and print these corrections to update your code book.

At the state level, if New Jersey updates its edition, you can find updated pages at <https://www.nj.gov/dca/codes/codreg/index.shtml>. When you arrive at the "Code and Regulations" page, locate and click on the box entitled "CURRENT UCC ADOPTED MODEL CODES AND STANDARDS", then scroll down to the desired "Subcode" and click on "**Corrected pages (NJ errata)".

(Continued on next page)

(Understanding the UCC: Basics, Errata, and Updates)

Tip # 3. Know the Current Subcodes for New Construction

Each code cycle lasts three years, after which a new edition may be adopted. To ease the transition, a “six-month grace period” (as per NJAC 5:23-1.6 Grace period) is included with each adoption. Subchapter 3, Subcodes, of the UCC identifies which code year/edition to use for design. To view Subchapter 3 of the UCC, use the link from “Tip # 1”, noted above.

For example: A commercial building should follow N.J.A.C. 5:23-3.14, Building Subcode, which currently references the 2021 International Building Code with New Jersey amendments. To view the 2021/IBC, use the 2nd link from “Tip # 2”, noted above.

Tip # 4. NJ Amendments: Note Modifications and Deletions

New Jersey may modify model codes to meet state-specific requirements. For instance:

- NJ specific amendments to the 2021 International Swimming Pool and Spa Code (ISPSC) are located in Section R327 of the 2021 International Residential Code (IRC), per N.J.A.C. 5:23-3.21, and Section 3109 of the 2021 International Building Code (IBC), per N.J.A.C. 5:23-3.14, as applicable.
- NJ specific amendments to the ICC/ANSI A117.1-2017, Accessible and Usable Buildings and Facilities standard are located in Section 1102 of the 2021/IBC, as per N.J.A.C. 5:23-3.14.

Tip # 5. Reference Standards: Check Effective Dates

Reference standards also get updated. Each model codebook includes a Reference Standards chapter listing the edition for that standard. Ensure the standard you use is compatible with your applicable Subcode.

For example: In the 2021/IBC, Section 1102.1 mentions the standard ICC A117.1 for designing accessible and usable buildings. However, it doesn't specify which edition to use with the section. To find the correct edition, you need to check Chapter 35, Reference Standards, in the 2021/IBC, which points to “ICC A117.1-17.” This means the 2017 edition is the one you should follow.

Tip # 6. UCC vs. UFC: Understanding Their Roles

The purpose of Subchapter-6, Rehabilitation Subcode, of the Uniform Construction Code (UCC), N.J.A.C. 5:23, is to establish safety standards and procedures for renovating existing buildings while ensuring they meet current health, safety, and accessibility requirements. However, it should be noted that it doesn't include “retrofit provisions”. This means buildings built under earlier codes can remain unchanged. To demonstrate how the UCC has evolved, beginning from its inception on January 1, 1977, please see the “NEW JERSEY MODEL CODE ADOPTION HISTORY” at https://www.nj.gov/dca/codes/codreg/pdf_regs_former/NJ_Model_Code_Adoptions.pdf.

In contrast, the Uniform Fire Code (UFC), N.J.A.C. 5:70, includes retrofit provisions that establish regulations and standards to ensure fire safety for existing structures. Retrofitting a building involves making changes or improvements (e.g., adding fire alarms, sprinklers, or fire-resistant materials) to enhance its safety, efficiency, or compliance with updated regulations. Note that, a UFC retrofit provision may cause for a UCC permit to be filed to complete the work from a UFC provision. For more information on the UFC, please contact the Division of Fire Safety (DFS) at (609) 633-6106 or visit their page at <https://www.nj.gov/dca/dfs/index.shtml>.

Tip # 7. Existing Structures and Subchapter 6

Subchapter 6 of the UCC includes six different categories of work, making it a bit tricky to navigate. For help, follow the link in “Tip #1,” click on “Bulletins,” and then find and click on “No. 98-1” for the “Rehabilitation Subcode Matrix.” Keep in mind that the Rehabilitation Subcode is your starting point for existing buildings. Current code standards only apply if they are specifically mentioned in Subchapter 6; otherwise, they don't apply.

(Continued on next page)

(Understanding the UCC: Basics, Errata, and Updates)

For more information about existing structures, visit Rehabilitation Subcode located at: <https://www.nj.gov/dca/codes/offices/rehab.shtml>.

By following these guidelines, you can ensure that your construction project complies with New Jersey's construction codes effectively.

Source: Keith Makai
Code Assistance Unit
(609) 984-7609

Office Partition Code Requirements

Over my 23 years here in the Code Assistance Unit, I have heard different interpretations regarding the building code requirements applicable to office partitions. This may stem from the semi-ambiguous provisions in Section 603.2 of the 1996 BOCA National Building Code, but who is to say... other than I have been around since the BOCA-days! When the 2000 International Building Code (IBC) was adopted to replace the BOCA code, the requirements and allowances were cleaned up and remained the same in the 2021 IBC. Also, can we get an amen that one provision of the code has stayed the same for over 20 years?... "Amen!"

Let's break down Section 603.1 of the 2021 IBC, entitled "Allowable materials" within the "Combustible Material in Types I and II Construction" provisions, where one will find a list of 27 items permitted in buildings with these types of construction. For this specific topic, see item #11: "Partitions dividing portions of stores, offices, or similar places occupied by one tenant only and that do not establish a corridor serving an occupant load of 30 or more shall be permitted to be constructed of fire-retardant-treated wood, 1-hour fire-resistance-rated construction, or wood panels or similar light construction up to 6 feet in height."

A closer look at the limitations within the exception shows that:

- This applies only to spaces occupied by one tenant. These types of walls may not be used to separate tenancies.
- It applies only to layouts that do not establish a corridor that serves an occupant load of 30 or more.
- Partitions may not be greater than six feet in height. Any partition that exceeds the limitations of Section 603.1 is required to be constructed of materials consistent with the construction type of the building.

Once the limitations of the exception are established, we must then look at the material that is used to construct the partition. The code allows the use of wood panels, fire-retardant-treated wood panels, or one-hour-rated construction. In other words, any approved construction material is allowed. Because the code regulates these types of partitions, interior finish, and trim requirements set forth in 2021 IBC, Chapter 8, "Interior Finishes," apply.

For these types of partitions in buildings constructed of Type III, IV, and V construction, any approved material, either combustible or noncombustible, may be used. The interior finish and trim requirements of Chapter 8 are also applicable.

(Back to my 23 years here...one can see my writing skills debut in the Fall 2001 edition of the Communicator.)

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

Tempered Safety Glazing Identification

Tempered glass is widely used in hazardous locations found in Section R308.4 of the International Residential Code (IRC) and Section 2406.4 of the International Building Code (IBC) due to its strength and safety features. To ensure that the glass used in buildings and other structures meets safety standards, it must be properly marked. According to industry regulations, the marking of tempered glass must be permanent and tamper-proof. Tempered glass is specifically excluded in Exception 1 of Section R308.1, Identification, of the IRC and Section 2406.3, Identification of safety glazing, of the IBC where it states a label can be used for the manufacturer's designation. This exception would include any other types of safety glazing that meet CPSC 16 CFR 1201 or ANSI Z97.1 depending on the size and type of assembly, such as, but not limited to laminated, wired, heat-strengthened, or organic coated glass.

The designation on tempered glass serves as a certification of its manufacturing process and compliance with safety standards. This marking must be acid-etched, sandblasted, ceramic-fired, laser-etched, or embossed onto the surface. Each of these methods ensures that the marking is integral to the glass itself and cannot be removed or altered without destroying the glass. This level of permanence is crucial for maintaining the integrity of the safety certification.

Methods of Permanent Marking

- **Acid Etching:** This involves applying acid to the surface of the glass to create a frosted, etched marking. It is durable and cannot be removed without damaging the glass.
- **Sandblasting:** A high-pressure stream of sand is used to create an etched mark on the glass. This method also ensures that the marking is permanent and tamper-proof.
- **Ceramic-Fired:** A ceramic ink is applied to the glass and then fired in a kiln, bonding the ink to the glass surface. This creates a permanent and durable mark.
- **Laser Etching:** A laser is used to engrave the marking directly onto the glass. This method is precise and creates a permanent mark that cannot be removed without damaging the glass.
- **Embossing:** This involves pressing a pattern into the glass during the manufacturing process. The embossed mark is part of the glass structure, making it permanent and tamper-proof.

I share this information because homeowners (and let's be honest, some builders too) are increasingly turning to online shopping for their glazing needs due to convenience and seemingly endless options. However, many miss that the shiny new glazing materials they purchase might not meet the statewide building codes, which are enforced locally. This little oversight can lead to some rather significant headaches, including potential injuries from non-compliant glass and awkward moments during inspections. It's crucial for homeowners (and again, builders too) to double-check that any glazing product they buy online adheres to established building codes and safety regulations to avoid these pitfalls. A few municipalities have caught onto this and are now handing out a written statement with the released permit, which is a wise solution to avoid a potentially huge problem during the final inspection. In conclusion, if you're going with tempered glazing, make sure it has one of those fancy permanent markings on the glass. Trust me, it'll save you a world of trouble!

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

Street Frontage Increase: Detached One- and Two-Family Dwellings

As previously highlighted in the Winter 2003 Construction Code Communicator article, *IRC Height and Area Issue is Resolved* (https://www.nj.gov/dca/codes/publications/pdf_ccc/2003_v15.pdf), the Department retained language from the BOCA/1996 code to alleviate concerns over the change in the scoping of the one- and two-family subcode. However, one section of the BOCA/1996 code that continues to raise questions from designers and code officials is NJ's 2021 International Residential Code (IRC), Section R300.3.2, Frontage, which originated upon the 2000 IRC adoption.

To better understand the code language at IRC Section R300.3.2, designers and code officials should turn to the BOCA/1996 code commentary. The commentary explains that street frontage increase, or "open perimeter increase" accounts for the separation of structures that results in the reduction of fire exposure to and from other structures. The increase also provides access to a work area for fire service personnel around the perimeter of the structure and to provide occupants of the structure with an area to egress while traveling to the "public way."

The basic premise of this section is that the structure is subject to an increase in tabular area when more than 25 percent of the perimeter complies with the following criteria:

1. The space next to the exterior of the wall must be unoccupied or that the perimeter fronts a street.
2. The unoccupied space must be on the same lot or dedicated to public use.
3. The unoccupied space must have a minimum width of 30 feet.
4. The unoccupied space must be provided with access by way of a street or a posted fire lane.

Many of the questions received by this office center around the requirements of criteria 4, specifically the language for the unoccupied space to be accessed by means of a posted fire lane, and how this applies to a detached one- or two-family dwelling.

Providing access to the fire department by means of a posted fire lane, as called out at Section R300.3.2, is not necessarily the paved fire lane, which is delineated with markings and signage that you would expect to see at a commercial property. To support this concept, BOCA code Interpretation No. 3/306/81 explains that the posted fire lane for street frontage increase is not required to be paved and the code does not specify what or how much constitutes a posted fire lane. Access by means of a posted fire lane is somewhat of a variable and tends to depend on the particular lot and building as well as the capabilities of the fire department and the type of equipment used by the fire department.

For these reasons, code officials must use good judgment when enforcing requirements for a posted fire lane in conjunction with street frontage increase for detached one- and two-family dwelling. Access for firefighting does not necessarily mean access with fire apparatus. Perhaps room for firefighters with a hose line is adequate access. This determination should be made by the code official working cooperatively with the fire department/fire official and the building designer. In almost all circumstances, requiring a paved fire lane for a one- or two-family dwelling is not necessary and access by a posted fire lane can be achieved by simply providing a 30-foot unobstructed open space around the perimeter of the structure with an approved ground surface that is conducive to fire department operations.

Source: Keith Thedinga
Code Assistance Unit
(609) 984-7609

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.

Emergency Escape and Rescue Openings in Group R-2 Buildings



(Update from Spring 2022)

As you all are aware, new Group R-2 occupancies are required to have automatic sprinkler protection per Section 903.2.8 of the 2021 International Building Code (IBC). This isn't the focus of the article, but a reminder before we get to the "meat and potatoes."

Section 1031.1, the "General" section for the emergency escape and rescue openings (EERO) requirements of the IBC states that in addition to the means of egress required by this chapter, EEROs are to be provided in Group R-2 occupancies located in stories with only one exit or access to only one exit as permitted by Tables 1006.3.4(1) and 1006.3.4(2).

In other words, this means a new building that contains Group R-2 occupancies, is 3 or fewer stories, and contains not more than 4 dwelling units per story, is permitted to have one exit or access to one exit if common travel distances are maintained to 125 feet (see Table 1006.3.4(1)). If a building meets these criteria, then the building is required to have EEROs installed in sleeping areas. Note that I do not reference Table 1006.3.4(2); this is because, as per Note C, this table is used for R-2 occupancies consisting of sleeping units, and I specifically state dwelling units in my example. However, if the building is designed with two exits or access to two exits, then EEROs are not required.

So, when two exits or access to two exits are provided, the interior of these buildings could be a little dark and drab with minimal natural light per the IBC. Yes, Section 1202.1 allows for buildings to be provided with natural ventilation in accordance with Section 1202.5, or mechanical ventilation in accordance with the International Mechanical Code. And yes, Section 1204.1 allows for every space intended for human occupancy to be provided with natural light by means of exterior glazed openings in accordance with Section 1204.2 or be provided with artificial light in accordance with Section 1204.3. However, buildings subject to the hotel and multiple dwelling regulations should note that N.J.A.C. 5:10-16.1 requires that every habitable room be provided with natural light, regardless of the IBC allowances and exceptions.

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

Visible Alarm Notification Appliances in R-2 Dwelling and Sleeping Units – IBC/2021 and ICC/A117.1-2017



This iteration of "Visible Alarm Notification" is an introduction to the new language and format of Sections 907.5.2.3.3 and 907.5.2.3.3.1 of the 2021 International Building Code (IBC).

Section 907.5.2.3.3 of the 2021 IBC contains most of the same language as previous code editions in that all Group R-2 dwelling and sleeping units, not just Type A units, shall be provided with the "capability of supporting visible alarm notification appliances in accordance with Chapter 11 of ICC A117.1." As originally discussed in the Winter 2005 CCC article, the capability of installing future visible alarm notification devices is an adaptable design feature, similar in concept to providing supportive blocking for the future installation of grab bars when needed by an occupant.

In addition to the existing language in Section 907.5.2.3.3, new language was introduced that states that dwelling units and sleeping units shall be provided with the capability to support "future wired or wireless visible alarm notification appliances," thus recognizing wireless appliances as an acceptable technology to meet the capability requirements. Finally, the three capability methods that were in this section in the 2018 IBC edition were removed, relocated, and fine-tuned in new Subsection 907.5.2.3.3.1, Wired equipment. This section is an aid for the building designer and fire alarm equipment installer to determine the most appropriate and cost-effective means of providing future visible alarm notification appliances to all dwelling units and sleeping units in the building.

(Continued on next page)

(Visible Alarm Notification Appliances in R-2 Dwelling and Sleeping Units – IBC/2021 and ICC/A117.1-2017)

In the past during the code development process, individuals had raised concerns that some building designers and code authorities were confused by what the word “capability” meant. It was not the intent for the word to mean prewiring (running conduit and wiring) a dwelling/sleeping unit for the future use of visible notification appliances. The only requirement is that the capability to support future visible alarm notification appliances is to be provided, whether that capability be wireless or wired equipment. More specifically, as the 2021 IBC commentary states, the requirements now provide three options for future wired capability, as follows:

1. Replacement of audible appliances with combination audible/visible appliances or additional visible appliances.
2. Extension of wiring from the unit smoke alarm locations to the required locations of visible appliances.
3. Excess power supply and circuit capacity for potential connection to visible alarm notification appliances. Only a single access point for each circuit is required on each story. As noted with this option, the fire alarm system shop drawings required by [Section 907.1.2](#) shall include the power supply and circuit documentation to accommodate the future addition of visible notification appliances.

Source: Keith Thedinga
Code Assistance Unit
(609) 984-7609

Visible Alarm Notification – IBC/2021 and ICC/ANSI A117.1-2017



(Update from Winter 2005)

While we're on the subject of visible alarm notification, the *Construction Code Communicator* published winter of 2005, has an article concerning visible alarm notification appliances in Group R-2 buildings. The article stated that Section 907.9.1.3 of the 2000 International Building Code (IBC) requires occupancies of Group R-2 that are required to have a fire alarm system as per Section 907.2.10.1.2, be provided with the capability to support visible alarm notification appliances within all dwelling units. However, an error was made referencing Section 907.2.10.1.2 for R-2 fire-alarm systems. The correct section is Section 907.2.9, and Section 907.9.1.3 changes to Section 907.5.2.3.3 in the 2021 International Building Code.

The capability to support future visible alarm notification appliances in R-2 dwelling units and sleeping units is an adaptable design feature, much like the supportive blocking of a wall for the future installation of grab bars when needed by the occupant. Based on the same principle, Section 907.5.2.3.3.1 provides direction as to what is meant by providing future visual notification appliance capability for a dwelling unit or sleeping unit.

Addition to this Article:

Some questions have arisen about item 1 of Section 907.2.9.1. This section requires manual alarms to be installed in buildings three or more stories above the lowest level of exit discharge. There is a question as to what is considered the lowest level of exit discharge. Any time this statement is used in the code, the floor count starts above the ground floor or the lowest level of exit discharge. In this case, a building with dwelling units or sleeping units four stories above grade must comply with this section and be provided with the capability of supporting visible alarm notification appliances within all dwelling units.

Hopefully, this helps clarify this section. If you have any additional questions, please call the number below.

Source: Keith Thedinga
Code Assistance Unit
(609) 984-7609

Blocked Vent Switch

When the national model codes moved from 2018 to 2021, the International Mechanical Code (IMC) and International Residential Code (IRC) were updated to include a requirement for Blocked Vent Switches on oil appliances. See the new for 2021 text below:

801.21/IMC and M1802.4/IRC, Blocked Vent Switch.

Oil-fired appliances shall be equipped with a device that will stop burner operation in the event that the venting system is obstructed. Such device shall have a manual reset and shall be installed in accordance with the manufacturer's instructions.

This switch was not required prior to the 2021 code cycle; but now it is part of the adopted codes. With this being the case, we have received multiple calls regarding when blocked vent switches are required to be installed on oil-fired appliances. So, the question is, when does this requirement kick in?

In short, they must be installed when the scope of work being performed includes this requirement. For example, when you replace an oil-fired boiler and the replacement does not have a blocked vent switch as a part of the replacement boiler, then one must be installed because it is a life safety issue. When flue piping or flue liners are replaced, they are NOT part of the scope of work for that type of repair/replacement, therefore, no switch would have to be installed.

That being said, is it still a good idea to install one when it is not part of the scope of work? As you all know, the model codes adopted by the Uniform Construction Code are the minimum requirement. So, installing the switch is more than the minimum requirement and could be a useful addition to protect the inhabitants of the building, however, a code official cannot require this switch outside the scope of work.

Source: Anthony Menafo
Code Assistance Unit
(609) 984-7609

When to Use the Mechanical Technical Section: Revisited

The Division has received numerous phone calls regarding when a mechanical technical section is required. There is a common misconception that the mechanical technical section is for when HVAC and ductwork are installed in any use group; this is incorrect. N.J.A.C. 5:23-3.4(d) states that the mechanical technical section shall be used for existing R-3 and R-5 structures when mechanical equipment and other related apparatuses are to be installed. So now the question is, what type of work is being done? Based on questions that have been asked the most frequently, the Division has put together the following matrix as a guide. Remember, this is NOT an all-inclusive list, but it should provide officials with a starting point for mechanical technical section requirements.

Since the original publishing of this matrix in the Fall 2019 *Construction Code Communicator*, there have been a few items that needed revisiting; they are now included in this updated matrix.

(When to use the Mechanical Technical Section Revised)

Work Category – Mechanical

Work Description		1 & 2 Family Dwellings Groups R-3 & R-5						Notes
Furnace - Central			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(a)
Furnace - Central All Fuels	New Construction/ Addition	Tech Sheet:	X	X	X		X	
		Plan Review:	X	X	X		X	
		Inspection:	X	X	X		X	
		Work type: Full Permit						
		Inspection type: Rough and Final						
	Existing Dwelling							
			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(d) / Form F-370 required
	Direct Replacement	Tech Sheet:		X		X		
		Plan Review:		X		X		
		Inspection:		X		X		
Work type: Minor Work								
Inspection type: Final Only								
New Installation	Installation/sizing of new piping changes project to: ➔ Work type: Full Permit ➔ Inspection type: Rough and Final (as applicable)						(Same as above)	

Work Description		1 & 2 Family Dwellings Groups R-3 & R-5						Notes
Boiler - Central			B	E	F	M	P	* Building may be required depending on type of chimney installed
Boiler – Central All Fuels	New Construction/ Addition	Tech Sheet:	*	X	X		X	
		Plan Review:	*	X	X		X	
		Inspection:	*	X	X		X	
		Work type: Full Permit						
		Inspection type: Rough and Final						
	Existing Dwelling							
	Direct Replacement		B	E	F	M	P	Responsibilities are as per N.J.A.C. 5:23-3.4(d) / Form F-370 required. * Plumbing required if new backflow preventer installed, and mechanical inspector is not a plumbing subcode official.
		Tech Sheet:		X		X	*	
		Plan Review:		X		X	*	
		Inspection:		X		X	*	
Work type: Minor Work								
Inspection type: Final Only								
New Installation	Installation/sizing of new piping changes project to: ➔ Work type: Full Permit ➔ Inspection type: Rough and Final						(Same as above)	

(Continued on next page)

(When to use the Mechanical Technical Section Revised)

Work Description		1 & 2 Family Dwellings Groups R-3 & R-5						Notes
Gas Piping			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(a)
Gas Piping	New Construction/ Addition	Tech Sheet:					X	
		Plan Review:					X	
		Inspection:					X	
		Work type: Full Permit						
		Inspection type: Rough and Final						
	Existing Dwelling							
			B <th>E</th> <th>F</th> <th>M</th> <th>P</th> <th rowspan="6">All responsibilities are as per N.J.A.C. 5:23-3.4(d)</th>	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(d)
	Direct Replacement/New installation	Tech Sheet:				X		
		Plan Review:				X		
		Inspection:				X		
Work type: Full Permit								
Inspection type: Rough and Final								

Work Description		1 & 2 Family Dwellings Groups R-3 & R-5						Notes
Condensing Unit			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(a)
Condensing Unit	New Construction/ Addition	Tech Sheet:		X			X	
		Plan Review:		X			X	
		Inspection:		X			X	
		Work type: Full Permit						
		Inspection type: Rough and Final						
	Existing Dwelling							
			B <th>E</th> <th>F</th> <th>M</th> <th>P</th> <th rowspan="5">All responsibilities are as per N.J.A.C. 5:23-3.4(d)</th>	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(d)
	Direct Replacement/New Installation	Tech Sheet:		X		X		
		Plan Review:		X		X		
		Inspection:		X		X		
Work type: Minor Work								
Inspection type: Final Only								

(Continued on next page)

(When to use the Mechanical Technical Section Revised)

Work Description		1 & 2 Family Dwellings Groups R-3 & R-5						Notes
Water heater - Gas			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(a) * Building & Electric, as applicable
Water Heater - Gas	New Construction/ Addition	Tech Sheet:	*	*	X		X	
		Plan Review:	*	*	X		X	
		Inspection:	*	*	X		X	
		Work type: Full Permit						
		Inspection type: Rough and Final						
	Existing Dwelling							
			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(d) / Form F-370 required * Electric if replacement is power vent exhaust
	Direct Replacement	Tech Sheet:		*		X		
		Plan Review:		*		X		
		Inspection:		*		X		
Work type: Minor Work								
Inspection type: Final Only								
New Installation	Installation/sizing of new piping changes project to: ➔ Work type: Full Permit ➔ Inspection type: Rough and Final						(Same as above)	

Work Description		1 & 2 Family Dwellings Groups R-3 & R-5						Notes
Water heater - Electric			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(a)
	New Construction/ Addition	Tech Sheet:		X			X	
		Plan Review:		X			X	
		Inspection:		X			X	
		Work type: Full Permit						
		Inspection type: Rough and Final						
Water Heater - Electric	Existing Dwelling							
			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(a)
	Direct Replacement/New Installation	Tech Sheet:		X			X	
		Plan Review:		X			X	
		Inspection:		X			X	
		Work type: Minor Work						
		Inspection type: Final Only						

(Continued on next page)

(When to use the Mechanical Technical Section Revised)

Work Description		1 & 2 Family Dwellings Groups R-3 & R-5						Notes
Oil Piping			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(a)
Oil Piping	New Construction/ Addition	Tech Sheet:					X	
		Plan Review:					X	
		Inspection:					X	
		Work type: Full Permit						
		Inspection type: Rough and Final						
	Existing Dwelling							
			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(d)
	Direct Replacement/New Installation, existing dwelling	Tech Sheet:				X		
		Plan Review:				X		
		Inspection:				X		
Work type: Full Permit								
Inspection type: Rough and Final								

Work Description		1 & 2 Family Dwellings Groups R-3 & R-5						Notes
Oil Tank - Install/Removal			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(a) * In addition to Fire, Building and Plumbing if underground tank
Oil Tank - Install/Removal	New Construction/ Addition	Tech Sheet:	*		X		*	
		Plan Review:	*		X		*	
		Inspection:	*		X		*	
		Work type: Full Permit						
		Inspection type: Rough and Final						
	Existing Dwelling							
			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(a) / Applies to above & underground tanks
	Direct Replacement	Tech Sheet:			X			
		Plan Review:			X			
		Inspection:			X			
Work type: Minor Work								
Inspection type: Final only								
New Installation	Installation/sizing of new piping changes project to: ➔ Work type: Full Permit ➔ Inspection type: Rough and Final						(Same as above)	

(Continued on next page)

(When to use the Mechanical Technical Section Revised)

Work Description		1 & 2 Family Dwellings Groups R-3 & R-5						Notes
Heating Venting System			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(a)
Heating Venting System	New Construction/ Addition	Tech Sheet:			X		X	
		Plan Review:			X		X	
		Inspection:			X		X	
		Work type: Full Permit						
		Inspection type: Rough and Final						
	Existing Dwelling							
			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(d)
	Direct Replacement/New Installation, existing dwelling	Tech Sheet:				X		
		Plan Review:				X		
		Inspection:				X		
Work type: Minor Work								
Inspection type: Final Only								

Work Description		1 & 2 Family Dwellings Groups R-3 & R-5						Notes
Duct System			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(a)
Duct System	New Construction/ Addition	Tech Sheet:	X					
		Plan Review:	X					
		Inspection:	X					
		Work type:	Full Permit					
		Inspection type:	Rough and Final					
	Existing Dwelling							Per N.J.A.C. 5:23-2.7(c)5iii, this is Ordinary Maintenance
			B	E	F	M	P	
	Direct Replacement, existing dwelling	Tech Sheet:						
		Plan Review:						
		Inspection:						
Work type:		No Permit						
Inspection type:								
New Installation, existing dwelling		B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(d)	
	Tech Sheet:				X			
	Plan Review:				X			
	Inspection:				X			
	Work type:	Minor Work						
	Inspection type:	Final Only						

(Continued on next page)

(When to use the Mechanical Technical Section Revised)

Work Description		1 & 2 Family Dwellings Groups R-3 & R-5						Notes
Fire Place Logs			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(a)
Fire Place logs	New Construction/ Addition	Tech Sheet:					X	
		Plan Review:					X	
		Inspection:					X	
		Work type: Full permit						
		Inspection type: Rough and Final						
	Existing Dwelling							
			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(d)
	Direct Replacement	Tech Sheet:				X		
		Plan Review:				X		
		Inspection:				X		
Work type: Minor Work								
Inspection type: Final Only								
New Installation	Installation/sizing of new piping changes project to: ➔ Work type: Full Permit ➔ Inspection type: Rough and Final						(Same as above.)	

Work Description		1 & 2 Family Dwellings Groups R-3 & R-5						Notes
Generator			B	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(a)
Generator	New Construction/ Addition	Tech Sheet:		X	X		X	
		Plan Review:		X	X		X	
		Inspection:		X	X		X	
		Work type: Full permit						
		Inspection type: Rough and Final						
	Existing Dwelling							
			B <th>E</th> <th>F</th> <th>M</th> <th>P</th> <th rowspan="5">All responsibilities are as per N.J.A.C. 5:23-3.4(d)</th>	E	F	M	P	All responsibilities are as per N.J.A.C. 5:23-3.4(d)
	Direct Replacement	Tech Sheet:		X		X		
		Plan Review:		X		X		
		Inspection:		X		X		
Work type: Minor Work								
Inspection type: Final Only								
New installation	Installation/sizing of new piping changes project to: ➔ Work type: Full Permit ➔ Inspection type: Rough and Final						All responsibilities are as per N.J.A.C. 5:23-3.4(d)	

Source: Anthony Menafo
Code Assistance Unit
(609) 984-7609

The Tracer Wire Goes Where?

When it comes to underground, nonmetallic gas piping, installing a tracer wire should be considered second nature. The requirement can be found within the 2021 International Residential Code (IRC), Section G2415.17.3, and the 2021 International Fuel Gas Code (IFGC), Section 404.17.3. Here, both sections state, “a yellow-insulated copper tracer wire or other approved conductor, or a product specifically designed for that purpose, shall be installed adjacent to underground nonmetallic piping. Access shall be provided to the tracer wire or the tracer wire shall terminate above ground at each end of the nonmetallic piping. The tracer wire size shall be not less than 18 AWG and the insulation type shall be suitable for direct burial.” Side note... anyone else notice that this section falls under the heading of plastic pipe but then uses nonmetallic piping throughout? Yes, they are one and the same for this topic.

As you can see from above, the term “adjacent” is the main focus of this article. A collegiate dictionary would state that it means, next to, meeting, or touching, but in this application, it simply means “next to.” Whether it lays next to the pipe in the trench or above with some of the backfill material between the pipe and the tracer wire, or other approved conductor, there must be some separation.

Some contractors have even taped the tracer wire, or other approved conductor, to the gas pipe, but this should never occur. Should someone have to connect to the tracer wire, or other approved conductor, to locate the underground nonmetallic piping, current could pass through the tracer wire, or other approved conductor, and possibly damage the nonmetallic gas piping thereby causing a bigger problem.

So, tracing our steps (see what I did there), plastic gas pipe and nonmetallic gas pipe are the same, and adjacent means next to and not touching.

Source: Anthony Menafro
Code Assistance Unit
(609) 984-7609

New Jersey Department of Community Affairs
Division of Codes and Standards
101 South Broad Street
P.O. Box 802
Trenton, NJ 08625-0802

BULK RATE
US POSTAGE
PAID
PERMIT NO.
XXXXX

FIRST-CLASS MAIL

Mail to:

