

# Construction Code Communicator



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## Flood Resistant Materials Usage Revisited – Reminder

Original guidance was provided within the Spring/Summer 2014 *Construction Code Communicator* (CCC) regarding the permitted materials used for flood resistance based on the 2009 International Residential Code (IRC). Updated guidance was provided for within the 2017 Fall CCC noting that the 2015 IRC, Section R322.1.8 was revised, in that, one of the two criteria from 2009 IRC was deleted leaving only one: FEMA's Technical Bulletin #2 (TB-2). In other words, item #1 from the 2009 IRC was deleted and item #2, TB-2, became the only item required in the 2015 IRC; this remains true for the 2018 IRC.














In terms of applying this to elevation height, for example, you must combine Section R322.2.1 of the 2018 IRC and NJ Department of Environmental Protection (DEP)'s regulations at N.J.A.C. 7:13. In doing so, TB-2 is to be applied to all items below the design flood elevation (DFE). The DFE is the base flood elevation (BFE) and at least one additional foot per DEP regulations. In the event that a municipality has adopted a "freeboard" greater than one foot, then the DFE becomes the BFE plus freeboard.

### References:

- ➔ Previous CCC - <http://www.nj.gov/dca/divisions/codes/publications/ccc.html>
- ➔ R322 of 2018 - <https://codes.iccsafe.org/content/document/1536>
- ➔ FEMA TB-2 - [https://www.fema.gov/sites/default/files/2020-07/fema\\_tb\\_2\\_rev1.pdf](https://www.fema.gov/sites/default/files/2020-07/fema_tb_2_rev1.pdf)

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

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## PV Panel and Module Listings

The current equipment listing for photovoltaic (PV) panels and modules is based on the 2017 National Electrical Code (NEC) and 2018 International Residential Code (IRC); this has been the case since these model codes were adopted on September 3, 2019 and must remain in effect for three years per N.J.S.A. 52:27D-123b before the State of New Jersey can move onto a new model code. Why do I note this, you ask? Let's take a look at the current code:

### 2018 IRC - R324.3.1 Equipment listings.

Photovoltaic panels and modules shall be listed and labeled in accordance with UL 1703. Inverters shall be listed and labeled in accordance with UL 1741. Systems connected to the utility grid shall use inverters listed for utility interaction.

So, one can see that pursuant to the above section, UL 1703 is the standard listing/labeling for PV panels and modules under the 2018 IRC. As we all know, technology advances, and so does the code. Note the **not yet adopted** 2021 IRC update below:

### 2021 IRC - R324.3.1 Equipment listings.

Photovoltaic panels and modules shall be listed and labeled in accordance with UL 1703 or with both UL 61730-1 and UL 61730-2. Inverters shall be listed and labeled in accordance with UL 1741. Systems connected to the utility grid shall use inverters listed for utility interaction. Mounting systems listed and labeled in accordance with UL 2703 shall be installed in accordance with the manufacturer's installation instructions and their listings.

The reason we bring this to your attention is that solar panel certification for the U.S. market has transitioned from UL 1703 to UL 61730-1 and UL 61730-2. UL 61730-1 encompasses the construction evaluation of the solar module, such as the individual component evaluation utilized in construction/assembly, and design assessment, such as clearance and creepage distances. UL 61730-2 entails testing requirements for solar panels such as humidity freeze tests and how to conduct such tests. The new UL standards (UL 61730-1 and -2) harmonize with existing international standards (IEC 61730-1 and -2). The harmonization helps solar panel manufacturing companies operate in a global environment under a single certification program. Since IEC 61730 standards have been developed for the international market, this may not necessarily address specific local requirements such as for the U.S. market. However, modifications made to address the U.S. market's safety requirements have been incorporated and are called national deviations. When comparing the UL 61730 certification program against the UL 1703 certification program, UL 61730 involves more testing requirements such as more fire types alongside other key differences as tabulated below:

### KEY DIFFERENCES BETWEEN UL 1703 AND UL 61730-1 AND UL 61730-2

STANDARD REQUIREMENTS	UL 1703	UL 61730-1 & UL 61730-2
Construction and Testing	One document, UL 1703, refers to construction evaluation of the product and its testing	Two documents -UL 61730-1 refers to construction evaluation of the product and UL 61730-2 refers to its testing
Number of Test Sequences	4	8
Design Load	30 psf or 1436 Pa	50.12 psf or 2400 Pa
Fire Type	Up to Type 15	Up to Type 33

Putting this all together, local construction offices should take this newer combination standard into consideration in the event the permit applicant cannot meet the UL 1703. Because the new standards incorporate UL 1703, those panels/modules listed to the newer standard, UL 61730-1 & UL 61730-2, should be permitted.

Source: Code Assistance Unit  
(609) 984-7609

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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](mailto:codeassist@dca.nj.gov).

## Heating, Ventilating, Air Conditioning, and Refrigeration (HVACR): Homeowner Installations

There is some confusion as to whether homeowners who occupy their own dwelling and perform HVACR work on their dwelling can install their own HVACR equipment, including pre-charged refrigerants for the air conditioning equipment.

The New Jersey State Board of Examiners of Heating, Ventilating, Air Conditioning, and Refrigeration Contractors (HVACR) Regulations, N.J.A.C. 13:32A-1.1, exempts single-family homeowners from obtaining a license: *“A single-family home owner who personally occupies his or her own dwelling and who performs work on his or her owner dwelling, except that any HVACR work involving chlorofluorocarbons (CFCs) or hydrochlorofluorocarbons (HCFCs) shall be performed only by a licensed Master HVACR contractor.”*

Pursuant to the HVACR regulations, any air conditioning equipment that has any refrigerant which is pre-charged with CFC or HCFC, or any system that is being replaced, those types of refrigerants must be reclaimed, and the work must be performed by a New Jersey Licensed Master HVACR contractor.

There is an exception to this requirement. Newer systems, such as mini-split systems, are pre-charged with a R410-A HFC refrigerant, which is designed to be safe, non-toxic, non-flammable, and does not have chlorine. Because these systems cannot harm the ozone layer, homeowners can perform installations of these systems in their own homes. A permit should be issued to any homeowner who applies for a permit to install these systems.

Source: Thomas C. Pitcherello, Code Assistance Unit  
(609) 984-7609

## Residential Stairways and the IRC

What gives?! The International Residential Code/2018 (IRC/2018), by way of the one- and two-family dwelling subcode (N.J.A.C. 5:23-3.21) only has one stairway section, R311? Precisely. Here's why:

***R311.1 Means of egress. Dwellings shall be provided with a means of egress in accordance with this section. The means of egress shall provide a continuous and unobstructed path of vertical and horizontal egress travel from all portions of the dwelling to the required egress door without requiring travel through a garage.***

In other words, it is assumed that all “roads” in the home are part of the means of egress leading to the main exit door; this would include your stairway. And if you have multiple stairways in the home, they too are part of your means of egress. So, one, two, or how ever many stairs you have are required to meet R311.7. There are some exceptions to this within R311.10 through 12, in that spiral stairs can be used, alternating tread and ship's ladders may be used in certain conditions, and bulkhead stairs can never be used as a means of egress (i.e. can be installed but there needs to be another means of egress/stair elsewhere from this space).

So, for the rest of the dwelling, like stairways to a garage or those leading from a deck in the backyard...yep, R311 applies. In those instances, you may get some “breaks” in code requirements for stairway landings based on location.

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

## Public Utilities and HVACR License

There seems to be some confusion as to whether a public utility, such as PSEG, can install HVACR systems without having an HVACR license. Where do you find the exemption?

The exemption is in the HVACR licensing statute and regulations. N.J.S.A. 45:16A-10, Applicability of act, relative to public utility company, states: “The provisions of [this law] shall not apply to any public utility company regulated by the Board of Public Utilities.” N.J.A.C. 13:32A-1.1, also states that the Chapter does not apply to public utility companies.

Therefore, as long as the public utility company is performing the HVACR installation with their own employees, they do not need an HVACR license. They are also permitted to replace a non-testable backflow preventer for a boiler without a HVACR or Master Plumbers license. If they should subcontract the installation to another contractor, that sub-contractor would be required to be a New Jersey licensed HVACR contractor.

This exemption only applies to HVACR systems and **not** domestic water heater installations. The public utility company would have to subcontract water heater installations to New Jersey licensed master plumbers.

Source: Thomas C. Pitcherello, Code Assistance Unit  
(609) 984-7609

## Rehabilitation Subcode – Changes of Use and Additions

The Office of Regulatory Affairs is receiving reoccurring complaints about work undertaken in existing buildings where the Rehabilitation Subcode has not been appropriately enforced or is being overlooked by the applicable officials. We would like to offer the following reminders for when a project must comply with the Change of Use or Additions requirements (N.J.A.C. 5:23-6.31 & 6.32, respectively) in the hopes of preventing future complaints.

### Change of Use

When a construction permit application is received, the work classification noted in the application is verified by the construction official, in consultation with the appropriate subcode official(s) (N.J.A.C. 5:23-6.2(b)2). This classification includes a determination of the occupancy group of the existing building or space for when a project is considered to be a Change of Use. After the existing occupancy classification is established, this starting point allows a proper plan review to be carried out in order to evaluate any newly submitted architectural plans and determine how the hazard classification for the different sections of N.J.A.C. 5:23-6.31 will apply in considering the proposed new use.

Even when a business has been closed or vacant for many years and the space is empty, the construction official must still establish an existing occupancy classification to ensure proper compliance with the Rehabilitation Subcode. An Official should utilize any prior documentation to assist in determining the existing occupancy classification. This could include, but is not limited to, prior construction permits, certificates of occupancy issued at the location, accessible fire safety registration records, tax records, zoning records, etc.

One example of this would be where an applicant lists an inaccurate existing occupancy classification that would be favorable to them while the local authority carries out a plan review in accordance with N.J.A.C. 5:23-6.31. If the construction official does not make a determination to confirm or correct the existing occupancy classification, the result would be that the UCC is not properly enforced. When this happens, Notices of Violation shall be issued in order to correct any issues that are identified.

### Additions

*The rehabilitation subcode states that “where an addition increases or extends the size of a fire area beyond that which is allowed by Section 903 of the building subcode, an automatic sprinkler system shall be provided throughout the fire area unless the addition is separated from the existing building by a fire barrier or horizontal assembly, or both...” (N.J.A.C. 5:23-6.32(e)).* Simply put, when an application for a construction permit is submitted to build an addition on an existing building that will exceed the allowable area, the addition must be separated with fire rated assemblies from the existing building. If this is not done, the existing fire area plus the new addition fire area will be subject to the automatic sprinkler requirements of Section 903 of the building subcode, the International Building Code/2018.

Recent complaints have been investigated where an Assembly Group A-2 occupancy building had additions constructed and the occupancy is missing passive or active fire protection systems due to reviewers missing the code requirements during plan review. Notices of Violation for separation of the fire area or installation of an automatic fire sprinkler system must be issued when the thresholds in Section 903 of the building subcode for the occupancy have been exceeded and it was missed upon final inspection.

When these mistakes are found after the building is occupied, it becomes a costly and time-consuming process to correct the violations. It is important to catch these errors during the plan review process before a permit or certificate has been issued. If you have any questions on how to properly apply the regulations of the Rehabilitation Subcode, please reach out to the Code Assistance Unit for advisement at (609) 984-7609.

As licensed code officials, we should all be working to ensure public safety, health, and welfare. When issues like this are discovered and it is found that the Uniform Construction Code is not being properly enforced, the Office of Regulatory Affairs does have the authority to revoke licenses or certifications or to issue alternative sanctions in accordance with N.J.A.C. 5:23-5.25. This is merely a reminder; this office does not prefer to take this action unless necessary due to egregious errors.

Source: Office of Regulatory Affairs  
(609) 984-7672

## Words of Electrical Wisdom Upon Neil Nagy's Retirement

Well it's about time...I'm retiring, and my last day is November 1, 2021, so I would like to share some of my basic "tips" and "rules of thumb," all good to remember, most learned by experience, some handed down to me from some long forgotten soul to whom I am deeply indebted.

- **One-inch equals 100 amps:** This is a basic rule of thumb to determine conduit sizing and is a close approximation of conduit/ampacity. For example, a 600 amp service/load/feeder would require six inches of conduit (three 2-inch or two 3-inch conduit) for conductor accommodation. Remember, this is a quick estimate that gets you in the ballpark. It does not replace any of the National Electrical Code (NEC) tables or text.
- **Area of Conduit:** We all know that (area =  $3.1416 \times \text{radius squared}$ ), but that is TOO MUCH MATH!! Especially when it's raining and snowing, so there must be a faster way! My answer: diameter squared  $\times 0.78$ . In other words, for a 2-inch conduit  $2 \times 2 = 4$ .  $4 \times 0.78 = 3$  inches (you can use 0.75 for estimation). This calculation gets you on the mark for conduit/conductor fill. You may have to break out the calculator for those pesky, weird conduit fills that, in my opinion, defy logic.
- **Read Your Wire:** Anyone who knows me has heard me say "read your wire." Things move quickly in the electrical field, sometimes on everyday items when we least expect it. I was recently reminded of this on a run of the mill time switch; the label stated, "16-amp electronic ballast." THAT WOKE ME UP! I am sure there are numerous other examples that we overlook because we take them at face value. It is easy to say, "we been using them for 20 years now," or "when did that change?" Manufacturer's instructions are paramount, and so is proper installation. There is no way around Article 110.3 of the NEC, after all!

In closing, I immensely enjoyed the trials and tribulations. Jocularly aside, I hope and wish everyone good health and happiness. Remember, there are no problems, only solutions! Mistakes add to experience, and I am absolutely experienced! I sincerely hope I have touched your life as you have touched mine. We all learn from one another. AU REVOIR (until we meet again).

Source: Neil Nagy, Bureau of Construction Project Review

## Requirements for Freight Elevators Without Gates in Change of Use Projects

It has come to the attention of the Division that there are still some freight elevators in use that were built in accordance with codes in effect decades ago; as a result, these devices were allowed to be installed with no gates, and the code in effect at the time included minimal guidelines for hoistway doors. The number of these devices throughout the State is limited, but it is still helpful to understand the relevant requirements.

The Uniform Construction Code (UCC) contains the requirements for installation and maintenance of elevator devices within the elevator safety subcode, N.J.A.C. 5:23-12; additionally, guidelines for installation are also dictated by the ASME A17.1 Standard in effect at the time of installation. The UCC states that devices can be in operation as long as they are maintained in accordance with the standards in effect at the time of their installation. In addition, at N.J.A.C. 5:23-12.12 the requirements specifically exempt freight elevators that are equipped with horizontally swinging doors, are not accessible to the general public, and are located in factories, warehouses, garages, or similar buildings, from compliance with the special safety equipment listed in that section of the UCC.

There has been some concern over how to apply these sections in the event of a change of use. If there is a change of use to a use group designation not listed in the above exemptions (for example: a warehouse that is undergoing a change of use to a residential use), then the elevator device must be updated to comply with N.J.A.C. 5:23-12.12.

It is important to note that it is the Owner in Fee's responsibility to submit all required documentation to the Division in the event of a change of use affecting elevator devices. This situation would prompt any elevator device to comply with the requirements relevant to the new use group; if this is not done, the elevator subcode official may order the device unsafe and inoperable pursuant to N.J.A.C. 5:23-12.2

Source: Dan Tober, Bureau of Construction Project Review  
(609) 984-7850

## UL Warns of Potentially Hazardous Tamper-Resistant Receptacle

Underwriters Laboratories has published a bulletin on Abbotech Tamper-Resistant Receptacles. The Bulletin is available at <https://www.ul.com/sites/g/files/qbfbpb251/files/2021-08/21PN-18.pdf>. UL recommends that these receptacles not be installed.

Source: Neil Nagy, Bureau of Construction Project Review

## Calculating Substantial Damage/Improvement

(Updated Reprint from Summer 2018)

Just a reminder for those that may be encountering this in the wake of flood damage from Tropical Storm Ida, let me begin with two words: prior approval. Calculating the value for substantial damage/improvement is not the construction code official's responsibility. This is done through the prior approval process, so the code official is looking for something in writing from the local floodplain administrator (LFA) stating whether the property is substantially damaged and/or improved. How the LFA made the determination is not our concern.

However, it is useful for code officials to have some information on this topic in order to assist permit applicants who may come to them with questions. The following is a helpful excerpt from a FEMA Fact Sheet entitled, "NFIP Substantial Damage – What Does It Mean?" released September 14, 2017 (release # FS008):

*The decision about a structure being "substantially damaged" is made at a local government level, generally by a ~~building official~~ or floodplain manager.*

*Substantial damage applies to a structure in a Special Flood Hazard Area (SFHA) – or 1-percent-annual-chance floodplain – for which the total cost of repairs is 50 percent or more of the structure's market value before the disaster occurred, regardless of the cause of damage. This percentage could vary among jurisdictions but must not be below NFIP standards.*

*For example, if a structure's market value before the damage was \$200,000 and repairs are estimated to cost \$120,000, that structure is substantially damaged. **Land value is excluded from the determination.***

The land value portion regarding a substantial damage project is highlighted because the code assistance unit has received multiple questions regarding this. This Fact Sheet contains much more information than what is provided above; the full Fact Sheet can be viewed at <https://www.fema.gov/news-release/2017/09/14/fact-sheet-nfip-substantial-damage-what-does-it-mean>. If permit applicants are questioning the LFA's price for a project, feel free to direct them to this article and advise them to follow up the contacts listed in the Fact Sheet.

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

## DCA Project Numbers on Permit Applications and Certificates

The next time you receive a permit application or issue a certificate, please consider adding the DCA-assigned project number on the paperwork. In Health Care Plan Review (HCPR) at DCA, additional paperwork is needed even after the certificate has been issued by the local official to complete the plan review process. The applicant for a plan review processed by HCPR is asked to send a copy of the certificate issued by the local authority having jurisdiction (AHJ); which confirms the project has been approved. Then, HCPR issues a letter to the applicant closing out the project for DCA and allowing the applicant to contact the NJ Department of Health (DOH) for their inspection. DOH will not do their inspection of a licensed health care facility without the DCA letter.

Long story short, sometimes DCA must contact the local AHJ to determine if a project is continuing or whether it has been completed and vice-versa. If the DCA-assigned project number is added to the permit application and the certificate, a lot of confusion can be avoided. Permit or control numbers used by local officials are not available when applicants file for plan review with DCA; it's too early in the process. However, since the DCA-assigned project number is always shown on released documents (the DCA release stamp), this information is readily available at permit filing time. The brief descriptions placed on permit applications do not always match the same project descriptions that the DCA receives for the same projects. That can make it difficult for officials on both plan review and inspections during the life of a project where coordinating information is needed.

The overall goal is to ensure that the whole code compliance process is proceeding properly. Simply adding the DCA-assigned project number on permit applications and certificates will help to connect DCA project numbers with the associated permits that have been filed. This goes a long way to eliminate confusion for both local officials and DCA.

Please contact the author if you have any questions at 609-984-7850.

Source: John Paluchowski, Chief  
Bureau of Construction Project Review



## **NJ DEP Floodplain Communicator Reprint: Post Superstorm Sandy Increased Cost of Compliance Deadline (Summer 2021 Edition)**

*The DEP Floodplain Communicator is online at <https://www.nj.gov/dep/floodcontrol/newsletters.htm>.*

The October 29, 2021 deadline for utilizing Increased Cost of Compliance funds to mitigate structures that were substantially damaged during Superstorm Sandy is fast approaching. ICC funds are available to National Flood Insurance Program policy holders after flood events in which insured structures experienced damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. In 2012, the deadline for using the \$30,000 in ICC funds was six years but was extended to nine years to the October 29, 2021 deadline.

By the 2021 deadline, property owners should have submitted their required documentation, including an elevation certificate for the elevated structure, to their insurance adjuster for reimbursement. Owners of non-residential property may also use ICC funds to floodproof structures and would also have to provide a floodproofing certification. In instances where property is bought as part of a Sandy buyout program, the ICC funds may be assigned to the buyout program or municipality to fund structure demolition. Another extension of the statewide FEMA ICC deadline for Sandy-damaged properties is considered unlikely.

### **Increased Cost of Compliance Extension and Fraud Issues**

Property owners who have applied for Increased Cost of Compliance benefits and cannot complete mitigation work and pass final inspection before the October 29, 2021 deadline, can request a waiver of the date of completion from their insurance carrier, but must provide documentation as to the reasons why a waiver should be granted.

Property owners may not transfer or assign ICC benefits to another party, such as through a sales transaction, unless the prospective buyer is the local community or the state and is purchasing the property under a FEMA-funded buy-out program.

The insurance carrier may also take action after the October 29, 2021 date if concealment or fraud is suspected. According to page 14 of the Standard Flood Insurance Policy found in Appendix A of the [2021 FEMA NFIP Insurance Manual](#) policies can be voided, have no legal force or effect, cannot be renewed, and cannot be replaced by a new NFIP policy if a policy owner, another insured policy owner, or an insurance agent has at any time:

1. Intentionally concealed or misrepresented any material fact or circumstance;
2. Engaged in fraudulent conduct; or
3. Made false statements; relating to this policy or any other NFIP insurance.

If fraud or concealment has been committed, policies can be declared void as of the date of any wrongful acts.

Fines, civil penalties and imprisonment under applicable Federal laws may also be pursued.

More information on the ICC process is available on [FEMA's Increased Cost of Compliance website](#).

New Jersey's Office of the State Comptroller also has established a [Sandy Fraud Prevention Hotline](#) to report any suspicion of fraudulent activity, theft, waste, bribes or kickbacks, and unethical or illegal conduct. Tips can be submitted anonymously through this hotline at 1-855-OSC-TIPS (1-855-672-8477) or to [comptrollertips@osc.state.nj.us](mailto:comptrollertips@osc.state.nj.us). All communications will be kept confidential.

### **Temporary Certificate of Occupancy Deadline**

Owners of structures that were repaired for temporary occupation under a Temporary Certificate of Occupancy issued by the local Construction Official pursuant to the Uniform Construction Code must adhere to the timeline listed in the Temporary Certificate of Occupancy under which "occupation" could be maintained before mitigating their structure unless an extension of the timeline was requested from the Construction Official. If a Temporary Certificate of Occupancy has been issued for a substantially damaged property that has not been mitigated to meet Federal, State, and local regulations and has not received a final Certificate of Occupancy, the property should be sold "as is" pending the completion of the deferred mitigation activities.

### **Substantial Damage Determinations and Floodplain Permit Requirements After October 29, 2021**

The passing of the Increased Cost of Compliance deadline does not affect the Floodplain Administrator's substantial damage determination. Substantial damage determination records and correspondence, like all other floodplain management records, are the responsibility of the local Floodplain Administrator and must be kept in perpetuity by the National Flood Insurance Program community. Communities should consult legal counsel to determine the legality of providing public access to substantial damage letters of unmitigated properties.

*(continued on next page)*

*(NJ DEP Floodplain Communicator Reprint: Post Superstorm Sandy Increased Cost of Compliance Deadline)*

Prior to the passing of the October 29, 2021 ICC deadline, owners of unmitigated substantially damaged structures should be notified by the Floodplain Administrator in a certified letter that they must consult with the local Construction Official and Floodplain Administrator if the structure will not be mitigated by the deadline. This letter should reference the initial substantial damage letter and request that the property owner negotiate and finalize a reasonable and achievable compliance schedule with both the Floodplain Administrator and the Construction Official prior to the ICC deadline. The date of this letter should be memorialized in the violations section of the community's flood damage prevention permit. (For an example of a violations section, please see the [Model Flood Damage Prevention permit](#)).

After the deadline, the structure will be considered in violation of the community's Flood Damage Prevention Ordinance unless a mutually agreed upon, reasonable and achievable compliance schedule outlining mitigation milestones towards achieving a final Certificate of Occupancy and final sign-off on the Flood Damage Prevention Permit. A reasonable compliance schedule outlines the end date by which the property owner's compliance plan for structure mitigation results in either the elevation, demolition, floodproofing/retrofitting, or relocation of the structure and all applicable permit documentation supporting mitigation completion has been received and approved by both the Floodplain Administrator and the Construction Official. An achievable compliance schedule should identify milestones for the finalization of plans for site development activities (i.e. activities related to demolition, structure modification, site redevelopment, and structure relocation including any State-required certifications by a registered design professional), the receipt of all identified and applicable Federal, State, and local permits, project construction and/or demolition completion dates, and project closeout documentation submissions. The compliance schedule proposal should also include a certification that the property owner has the funds available to complete the proposed project milestones by the compliance schedule end date. Both the Construction Official and the Floodplain Administrator will evaluate and provide comments on the proposed compliance schedule as part of the negotiation process and work with the property owner to finalize the compliance schedule. It is recommended that communities consider developing a template to include with their certified letters to guide property owners in providing the information necessary for negotiating a reasonable and achievable compliance schedule.

If a reasonable and achievable compliance schedule cannot be negotiated and implemented before the October 29, 2021 deadline and/or compliance schedule milestones are not achieved after the October 29, 2021 deadline, the property will be considered in violation of the community's Flood Damage Prevention Ordinance and the municipality can take actions under N.J.S.A 40:49-5 or through N.J.A.C. 5:23, as applicable to address structure mitigation. The Flood Damage Prevention Permit should remain open until the structure is mitigated.

As applicable to all structures with violations of NFIP regulations, if a community has undertaken all enforcement actions available through local and State authorities to achieve compliance, and the violation has not been corrected, the community may, as a last resort, request that the structure be declared uninsurable through Section 1316 of the National Flood Insurance Act of 1968.

### **Variances to Post-Superstorm Sandy Substantial Damage Determinations**

By National Flood Insurance Program regulation, variances to a community's substantial damage regulations contained in the community's Flood Damage Prevention Ordinance may only be given to elevation and floodproofing mitigation requirements structures that qualify for State and Federally listed structures at the discretion of the local Floodplain Administrator. More information on this topic is available below in the [Historic Structures, Adaptation Planning, and Mitigation Guidance for Historic Properties section](#) of this Newsletter. Variances for hardship under the NFIP must be exceptional, unusual, and peculiar to the property involved. Mere economic or financial hardship alone is not exceptional. Inconvenience, aesthetic considerations for non-historic structures, physical handicaps, personal preferences, or the disapproval of one's neighbors cannot qualify as an exceptional hardship under the NFIP because these problems can be resolved through other means without the granting of a variance.

Substantial damage and improvement determinations are a statutorily-required duty of a local Floodplain Administrator as part of a community's agreement to enforce the National Flood Insurance Program regulations 44 CFR 59 and 60. However, variances related to a Floodplain Administrator's substantial damage decision-making may be appealed to the body, generally a Planning or Zoning Board, designated to hear variances (or sometimes referred to as appeals) in the local Flood Damage Prevention Ordinance. For efficiency after Superstorm Sandy, some appeal bodies with extensively damaged areas also established a working group to make recommendations to the appeal body. To guide these determinations and inform appeal bodies on the particulars of assessing damage and determining market valuation after any event triggering 50% substantial damage thresholds, FEMA has provided extensive guidance in the [Substantial Improvement / Damage Desk Reference Guide \(FEMA P-758 – May 2010\)](#).

*(continued on next page)*



*(NJ DEP Floodplain Communicator Reprint: Post Superstorm Sandy Increased Cost of Compliance Deadline)*

Recently, some purchasers or owners of substantially damaged properties have contested Superstorm Sandy-related Substantial Damage Determinations to their local Floodplain Administrator. Generally, these requests have centered around how market valuation was determined. Because these determinations appeal a Floodplain Administrator's decision-making, this request should be made to the appeal body as a formal variance. Depending upon the municipality's established post-Sandy substantial damage process and the opinion of legal counsel, the appeal body can decide to either hear or decline the variance request. If a request to hear the variance is granted, it is recommended that the appeal body also require documentation from the applicant including but not limited to the type, cost, and extensiveness of repairs performed after Superstorm Sandy including the fair market cost of labor to fully evaluate the percentage of substantial improvement to the structure based upon the contested market value. The Floodplain Administrator should also provide a recommendation for approval or denial to the appeal body which may include but is not limited to the substantial damage process in place at the time, the market valuation used, the value of all construction permits obtained, an evaluation of Ordinary Maintenance and Minor Work projects performed under the Uniform Construction Code (see N.J.A.C. 5:23-1.4 with specific conditions listed as 2.7 and 2.17A), an evaluation of labor costs, tax assessment photographs, and the high water marks on and damage to nearby structures.

It should also be noted that FEMA's Substantial Damage / Substantial Improvement Desk Reference Guide states that *"an owner may appeal the use of assessed value, but the burden of proof can be placed upon the applicant who can be required to submit an independent professional property appraisal that is prepared by a qualified appraiser."* Because of the time elapsed and the technical nature of determining a valuation dating back to 2012, it is suggested that appeal bodies also request a report from the municipality's appraiser.

### **Enforcement of Substantial Damage and Improvement of Abandoned or Neglected Flood-Damaged Properties**

In situations where structures were abandoned and/or not habitable after the Superstorm Sandy, market valuation of these properties significantly declined due to neglect and these structures were and can be sold for prices significantly lower than nearby habitable but non-elevated structures. Increases or decreases in a structure's market value from 2012 to 2021 values also do not affect the substantial damage determination issued after Superstorm Sandy for these structures because determinations were made using the valuation data just prior to the time of damage.

All construction work on these structures must be evaluated by the Floodplain Administrator to ensure that the only improvements undertaken are those to correct existing violations of State or local health, sanitation, or code enforcement officials which are the minimum necessary to assure safe living conditions. The determination of a "minimum necessary improvement for safe living conditions" must be made jointly by the local Floodplain Administrator and the local Construction Official. Work not related to habitability including that allowed pursuant to a Temporary Certificate of Occupancy does not eliminate the requirement that the substantially damaged structure be mitigated as required by the property's substantial damage letter.

Property owners and prospective property owners should be advised that the Floodplain Administrator is statutorily required to review improvement costs for substantial improvement thresholds during the issuance of a Flood Damage Prevention permit including items that constitute Ordinary Maintenance and Minor Work under the Uniform Construction Code. The list of regulated improvements includes but is not limited to replacements of roofing, siding, interior finishes, kitchen cabinet, plumbing fixtures and piping, HVAC and air conditioning equipment, exhaust fans, built-in appliances, and electrical wiring. The [FEMA Substantial Improvement / Damage Desk Reference Guide \(FEMA P-758 – May 2010\)](#) can be consulted for a more inclusive list and definition of what improvements must be evaluated.

A system for consistent enforcing and recordkeeping is key to managing substantially damaged properties and limiting unmitigated properties from being passed along to unsuspecting new owners. Documenting unsafe living conditions and regularly assessing corresponding declines in structure market value after a flood event from mold, decay, or abandonment with the tax assessor helps enforce the mitigation regulations necessary for communities to successfully adapt to climate change and rising sea levels. This consistent enforcement and valuation reassessment can deter property speculators from disputing local substantial improvement cost determinations and, more importantly, from profiting from an unmitigated property that is susceptible to repeat flooding at the expense of the new property owner. It also requires speculators and prospective owners to consider the cost of mitigation as a cost of ownership. If the property is determined to be an unsafe structure, the community may also follow the process prescribed in the Uniform Construction Code, N.J.A.C. 5:23-2.32 to require structure repair by the property owner, and if necessary, perform the repairs and seek recovery through a construction lien.

Source: Code Assistance Unit  
(609) 984-7609

## Fire-Protective-Rated Glazing vs. Fire-Resistance-Rated Glazing

There has been a handful of inquiries regarding the glazing types noted in the title. To explain, let's start with the definitions at Section 202 of the International Building Code 2018 (IBC/2018):

**FIRE-RATED GLAZING:** Glazing with either a fire protection rating or a fire-resistance rating.

Note that the definition uses two other defined terms:

- **FIRE PROTECTION RATING:** The period of time that an opening protective will maintain the ability to confine a fire as determined by tests specified in Section 716. Ratings are stated in hours or minutes.
- **FIRE-RESISTANCE RATING:** The period of time a building element, component or assembly maintains the ability to confine a fire, continues to perform a given structural function, or both, as determined by the tests, or the methods based on tests, prescribed in Section 703.

You'll find references to these items at Section 716, Opening Protectives, of the IBC/2018. These are the regulations for opening protection within, including fire doors, fire shutters, fire windows, and glass block assemblies. This article is geared towards the glazing found in fire doors and fire windows. Fire protection rated glazing is found in Section 716.1, 716.2, and 716.3 respectively. Fire-resistance-rated glazing is addressed in Section 716.1.2.3, and not addressed in the balance of Section 716, but more on that in a bit.

Focusing on fire doors, this type of opening protective would be the type installed in openings of fire-resistance-rated wall assemblies, including fire walls, fire barriers, fire partitions, and exterior walls where the openings are required to be protected. In other words, a protective in a rated assembly. The protected openings are required to be installed in accordance with NFPA 80 per Section 716.1. Table 716.1(2) lists the minimum fire protection ratings for fire doors relative to the nature and fire-resistance rating of the wall assembly which may be less than the required fire-resistance rating of the wall assembly. In addition to the rating of the door, Table 716.1(2) specifies the allowable size of the glazed door vision panels and required markings. Before you panic, remember the limitations for the size of glazing is only required for fire-protection-rated glazing and not fire-resistance-rated glazing. Note, that Table 716.1(2) footnote b. states "Fire-resistance-rated glazing tested to ASTM E119 in accordance with Section 716.1.2.3 shall be permitted, in the maximum size tested". Table 716.1(3) follows the same format regarding fire window assemblies.

Moving back to Section 716.1.2.3, fire-resistance-rated glazing in doors or windows that is tested as part of the wall assembly under ASTM E119 or UL 263, the glazing is no longer considered an opening, but part of the fire-resistance wall assembly. This is also applicable for glazing that is specified to be protected per Table 705.8 in terms of maximum area of exterior wall openings based on fire separation distance, as the listed assembly rating would include openings.

Below are two examples that are common questions that we receive here at the Code Assistance Unit.

**Example #1:** Table 716.1(2) states an enclosure for an interior exit stairway that has a required wall assembly rating of 2 hours requires a fire door assembly rating of 1 ½ hours; the door vision panel size is limited to 100 sq. inches for fire protective glazing. Please note: in the heading of the table, there's a link to footnote "b" next to door vision panel size. Footnote b reads: Fire-resistance-rated glazing tested to ASTM E119 in accordance with Section 716.1.2.3 shall be permitted, in the maximum size tested. Therefore, if fire-resistance-rated glazing is used it can exceed the 100 sq. in. and permitted to the maximum size tested.

**Example #2:** Table 705.8 states the maximum area of exterior wall openings based on fire separation distance and degree of opening protection. For a building that has a fire separation distance of 0 to less than 3 feet, protective openings are not permitted. This would not apply to fire-resistance-glazing, which is permitted to the maximum size tested in accordance with Section 716.1.2.3. Note that fire separation distance is only to be measured at RIGHT ANGLES from the building face to the closest interior lot line, centerline of a street, an alley or public way or an imaginary line between two buildings on the lot.

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



## **New Jersey's Model Statewide Municipal EV Ordinance & Incentives**

Drive Green! That's easier said than done, which is why the State is rolling out a suite of strategies to pave the way for electric cars. But why? The climate crisis is real, and we must tackle it head-on. A new report by the United Nations Intergovernmental Panel on Climate Change found that, "It is unequivocal that human influence has warmed the atmosphere, ocean, and land at a rate that is unprecedented in the last 2000 years." With 42 percent of our climate pollution coming from the transportation sector, transitioning to electric vehicles (EV) is important if we're going to reduce global warming pollutants.

The Murphy Administration took another step toward electrifying New Jersey's transportation sector on September 1, 2021, with the unveiling of a statewide municipal ordinance that makes it easier for people to drive electric by streamlining the local approval process for installing convenient and cost-effective charging infrastructure. The Model Statewide Municipal Electric Vehicle Ordinance was written by the Department of Community Affairs (DCA) with support from the Department of Environmental Protection (DEP) and Board of Public Utilities (BPU) to comply with a law Governor Phil Murphy signed in July.

The law requires that Electric Vehicle Supply/Service Equipment ("EVSE" or "charging stations") and Make-Ready parking spaces be designated as a permitted accessory use in all zoning or use districts and establishes associated installation and parking requirements related to EVSE in New Jersey's 565 municipalities. In order to implement this, the law requires that DCA publish a Model Statewide Municipal EV Ordinance on its website. The model ordinance is required to include the installation and parking requirements detailed in the law, as well as address installation, sightline, and setback requirements and other health- and safety-related specifications for EVSE and Make-Ready parking spaces.

The law has many unique aspects. It did not require DCA to go through the rulemaking process when initially publishing the ordinance, although DCA did seek extensive stakeholder input. Additionally, the EV ordinance is mandatory; it became effective in all municipalities upon DCA publication in September 2021. Municipalities are allowed to make changes to the Reasonable Standards section of the ordinance through the normal municipal ordinance amendment process but may not change the parts of the ordinance that are required by the law such as installation and parking requirements.

For municipalities with existing EV ordinances, the statewide ordinance will supersede those requirements. Municipalities don't technically need to adopt the ordinance because the legislation says, "The model land use ordinance published by the Commissioner of Community Affairs shall be effective in each municipality." However, municipalities may want to add an ordinance number so they can fit the EV ordinance into their existing ordinances, add cross-references, and add EVSE and Make Ready parking spaces to the permitted accessory uses in each of the municipality's zones. They may also want to add their own penalties; the locations of the publicly accessible, municipally owned EVSE parking spaces; and usage fees for the municipally owned EVSE.

Yet another unique aspect of the bill is that it requires the Residential Site Improvement Standards (RSIS) and the Uniform Construction Code (UCC) to be consistent with the requirements set forth in the model ordinance. The RSIS and UCC must be updated if the model ordinance is updated. Both regulations must incorporate the requirements within 90 days of enactment of the law, but until then, one should reference the Law, P.L. 2021, c. 171.

The EV ordinance was designed to ensure that municipalities are requiring installation of EVSE and Make-Ready parking spaces in a consistent manner and also to provide an ordinance that can be easily used by every municipality with no or minimal amendments by the municipality. The law states that municipalities may encourage additional installation of EVSE and Make-Ready parking spaces but may not require more EVSE or Make-Ready parking spaces than what is required in the EV ordinance. In crafting the ordinance, DCA aimed to provide an ordinance that municipalities could simply take and begin to implement without having to pay additional costs for consultants to make further changes.

The most significant requirement of the ordinance's mandatory provisions is that EVSE and Make-Ready parking spaces be treated just like any other permitted accessory use, whether the EVSE or Make-Ready parking spaces are included with a site plan application for a new development or being added to an already existing building or development. This addresses inconsistencies throughout the state on how charging station installation was being handled by municipalities and their building and zoning departments. The EV ordinance also includes specific requirements for existing buildings and developments. For example, the application for a zoning permit for the charging station must conform with conditions of previous approvals.

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*(New Jersey's Model Statewide Municipal EV Ordinance & Incentives)*

DEP and DCA are currently working on a Best Management Practices (BMP) Manual to assist with the Reasonable Standards section of the ordinance. The BMP will cover topics including signage, whether to put a time limit on charging, whether to charge usage fees and the structure of the fees and comparing networked vs. non-networked charging stations. Look for the BMP on the [DEP Drive Green](#) website and the [DCA Local Planning Services](#) website in the near future.

Because any changes to the ordinance will affect 565 municipalities, changes to the EV ordinance will have to be limited. However, it can be anticipated that changes to the ordinance will be made in the future in response to issues identified through real-world implementation.

So how many EVs do we really have in New Jersey and what else is the State doing to help increase the numbers? Over the last three years New Jersey has doubled its EV ownership. The state now has one of the strongest EV laws in the country, which aims to put 330,000 EVs on the road by 2025 while expanding charging infrastructure. With more than \$10 million in infrastructure investments, New Jersey is eliminating range anxiety through our [It Pay\\$ to Plug In](#) program. New Jersey already has 1,495 publicly accessible chargers at 608 locations statewide and we continue to add more, putting public charging within easy reach of most New Jerseyans.

And New Jersey provides the most generous EV purchase incentives in the country through a combination of the [Charge Up New Jersey](#) program (to relaunch soon) and a sales tax exemption. Since launching in 2020, this program has reduced the upfront cost for the purchase of 9,000 EVs.

As we continue to expand charging and financial incentives, it is equally important to communicate, collaborate, and educate. [Drive Change. Drive Electric](#) raises awareness of the growing availability of charging and shows that driving electric is practical, sustainable, and enjoyable. The recently published [Green City Guides](#) are a one-stop resource to exploring some of the most EV-friendly cities in the Northeast including Princeton, Jersey City and Red Bank, NJ. [PlugStar](#), a dealer training and certification program, aims to provide a better consumer buying experience and ultimately boost the sale of EVs in New Jersey. Through this program, dealers can sign up for an EV training course and access marketing and educational materials that will boost their comfort level in selling EVs on the showroom floor and provide a better experience for consumers looking to buy a new EV.

Residential drivers alone will not be enough. We are counting on all partners in government to embrace the switch. The [Clean Fleet Electric Vehicle Incentive](#) Program supports local and state governments as they transition their fleets to EVs. DEP's [resource guide](#) provides a listing of information and funding to help local governments go electric. Clean transportation must also be available for residents of low- and moderate-income communities even if they're not looking to purchase an EV. Earlier this year, DEP [awarded](#) money to several electric ride sharing programs that will enable all residents to have access to clean transportation.

With the release of the Model Statewide EV Ordinance, financial incentives, and communication campaigns, New Jersey is paving the way for EV adoption in the state. The Model Statewide EV Ordinance will enable EV adoption among residents who can't charge at home and will alleviate "range anxiety" by increasing the proximity of charging infrastructure and giving residents the confidence to drive electric. We believe this ordinance is unprecedented in the country and will help propel the state to become the EV Capital of the East.

To learn more about the Statewide EV Municipal Ordinance, visit the Division of Local Planning Services Website at <https://www.nj.gov/dca/dlps/home/modelEVordinance.shtml>.

#### Resources

- [2019 NJ Energy Master Plan](#)
- [P.L. 2021, c. 171](#)
- DEP Drive Green website: <https://www.drivegreen.nj.gov/index.html>
- New Jersey Partnership to Plug-In: <https://www.nj.gov/governor/news/news/562019/20190603b.shtml>
- EV Law (P.L. 2019, c. 362): [https://www.njleg.state.nj.us/2018/Bills/PL19/362\\_.PDF](https://www.njleg.state.nj.us/2018/Bills/PL19/362_.PDF)

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## Removal or Abandonment of Residential Heating Oil Tanks: Fee Schedule Applicability

It seems that there has been some confusion surrounding fee schedules as they relate to the removal or abandonment of residential heating oil tanks, mainly with municipalities utilizing PermitsNJ. This article seeks to provide guidance in dealing with these removals.

Pursuant to N.J.A.C. 5:23-3.4, plan review and inspection are the responsibility of the fire protection subcode official (see Section 1301.5 of the mechanical subcode and Section M2201.7 of the one- and two-family dwelling subcode). While many towns may have an established fee for fire protection, PermitsNJ does not include fire protection in its fee schedule; however, there is a solution.

When there is a removal or abandonment of residential heating oil tanks, it should be entered into PermitsNJ as "other" for fee schedule purposes. This will ensure that money is still collected for the work done and will maintain consistency throughout towns utilizing this software when these projects are undertaken. This also applies to any municipality where the reporting software does not include fire protection within the fee schedule.

If you have any questions regarding this topic and are in a municipality overseen by the Bureau of State and Local Code Inspection, please contact Dave Blackwell at (609) 292-0994. Otherwise, questions should be directed to the PermitsNJ support team at (609) 292-7107.

Source: Code Assistance Unit

## NJ DEP Floodplain Communicator Reprint: Tropical Storm Ida Emergency Newsletter

The DEP Floodplain Communicator is online at <https://www.nj.gov/dep/floodcontrol/newsletters.htm>.

### Federal Post-Disaster Assistance for Construction Code, Floodplain Management and Ordinance Adoption

Tropical Storm Ida has been declared a disaster under the Robert T. Stafford Disaster Relief Act. Impacted towns can now receive funding for building code and floodplain administration and enforcement, inspections for substantial damage, and ordinance adoption through FEMA Public Assistance under Section 1206 of the Disaster Recovery Reform Act of 2018. The municipality will be responsible for any non-federal cost shares. Please be sure to visit the links below to ensure all costs will be reimbursable and compliant with [2 C.F.R. PART 200](#). More information on this will be available through the New Jersey Office of Emergency Management.

[Disaster Recovery Reform Act Section 1206 Frequently Asked Questions](#)

[Disaster Recovery Reform Act Section 1206 Informational Webinar](#)

Source: Code Assistance Unit  
(609) 984-7609

## Rooftop Photovoltaic Solar Energy Systems – Access and Pathways

The previously published Construction Code Communicator (CCC) article from Fall 2019, titled "Section R324, Solar Energy System Pathways, Roof Access, and Setback Requirements," discussed a new code requirement that was introduced in the 2018 International Residential Code (IRC) for "access and pathways" for photovoltaic solar energy systems (*similar requirements can be found in Section 3111 of the 2018 International Building Code (IBC), but the one- and two-family dwelling subcode (IRC) is the focus of this article*). Since the first article was published then, the code assistance unit has received many inquiries regarding the new requirements.

For new construction, Section R324 of the 2018 IRC applies when these systems are installed. But when it comes to an existing home, one must start at the Rehabilitation Subcode, N.J.A.C. 5:23-6. Specifically, the materials and methods section, N.J.A.C. 5:23-6.8(h)1vii, provides the link to Section R324 which states: R324 shall apply to **newly installed** and **completely replaced** solar energy systems.

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*(Rooftop Photovoltaic Solar Energy Systems – Access and Pathways)*

Requirements (as applicable): The charging text at Section R324.6, Roof Access and Pathways, states that access and minimum spacing is required to provide emergency access to the roof, to provide pathways to specific areas of the roof, provide for smoke ventilation opportunity areas, and to provide emergency egress from the roof. However, three exceptions are provided for when roof access and pathways are not required:

1. Detached, non-habitable structures, including but not limited to detached garages, parking shade structures, carports, solar trellises and similar structures, are not be required to provide roof access.
2. Roof access, pathways and setbacks do not need to be provided where the code official has determined that rooftop operations will not be employed.
3. These requirements do not apply to roofs with slopes of two units vertical in 12 units horizontal (17-percent slope) or less.

Section R324.6.1, Pathways, provides the requirements for the number of pathways, locations, dimensions, and design criteria. There are not to be fewer than two pathways on separate roof planes from the lowest roof edge, and these are not to be less than 36 inches wide. At least one pathway is to be provided on the street or driveway side of the roof. For each roof plane with a photovoltaic array, a pathway measuring not less than 36 inches wide is to be provided from the lowest roof edge to ridge on the same roof plane as the photovoltaic array, on an adjacent roof plane, or straddling the same and adjacent roof planes. Pathways are to be over areas capable of supporting fire fighters accessing the roof. Pathways are to be located in areas with minimal obstructions such as vent pipes, conduit, or mechanical equipment.

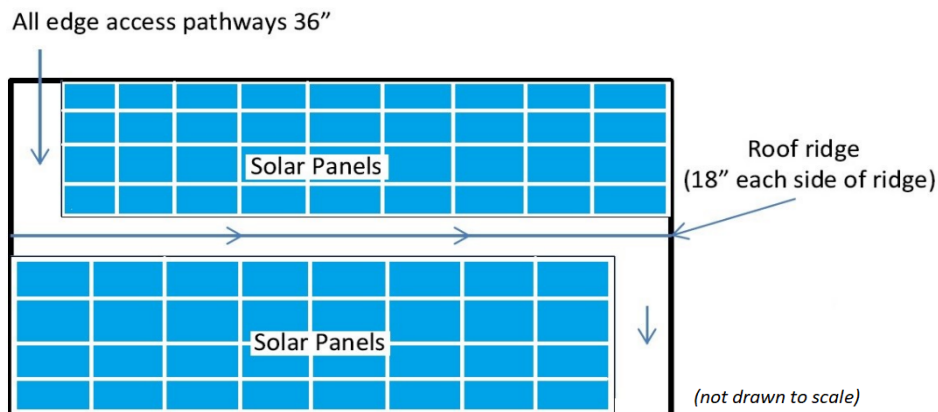
Section R324.6.2, Setback at ridge, requires that when photovoltaic arrays occupy not more than 33 percent of the plan view total roof area, not less than an 18-inch clear setback is required on both sides of a horizontal ridge. However, for photovoltaic arrays occupying more than 33 percent of the plan view total roof area, not less than a 36-inch clear setback is required on both sides of a horizontal ridge.

Please note, the setback at the ridge must be CLEAR. This is important for firefighter's safety in the venting process. Often there is conduit installed within the ridge setback area which connects the panels on adjacent roof planes. This type of installation will no longer be code compliant. You'll notice Section R324.6.1 allows for minimal obstructions (such as conduit) in the pathways but the ridge setback specifically states clear.

Section R324.6.2.1, Alternative setback at ridge, allows for a percentage increase of panels where an automatic sprinkler system is installed within the dwelling in accordance with NFPA 13D or Section P2904. The threshold is then increased from 33% to 66% in terms of requiring an 18-inch or a 36-inch clear setback at the ridge.

And lastly, Section R324.6.2.2, Emergency escape rescue opening. Panels and modules installed on dwellings are not to be placed on the portion of a roof that is below an emergency escape and rescue opening. A pathway not less than 36 inches wide is to be provided to the emergency escape and rescue opening.

Provided below are a few example illustrations of roof access and pathways that meet the requirements in Section 324.6: the first being a simplistic version of the requirements and the following two being a little more in-depth.

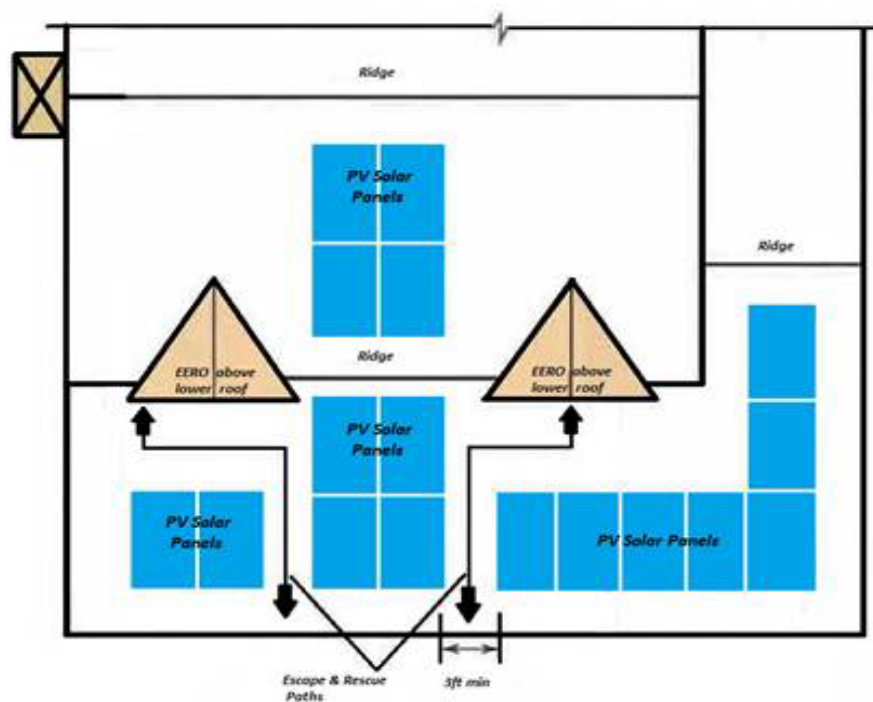
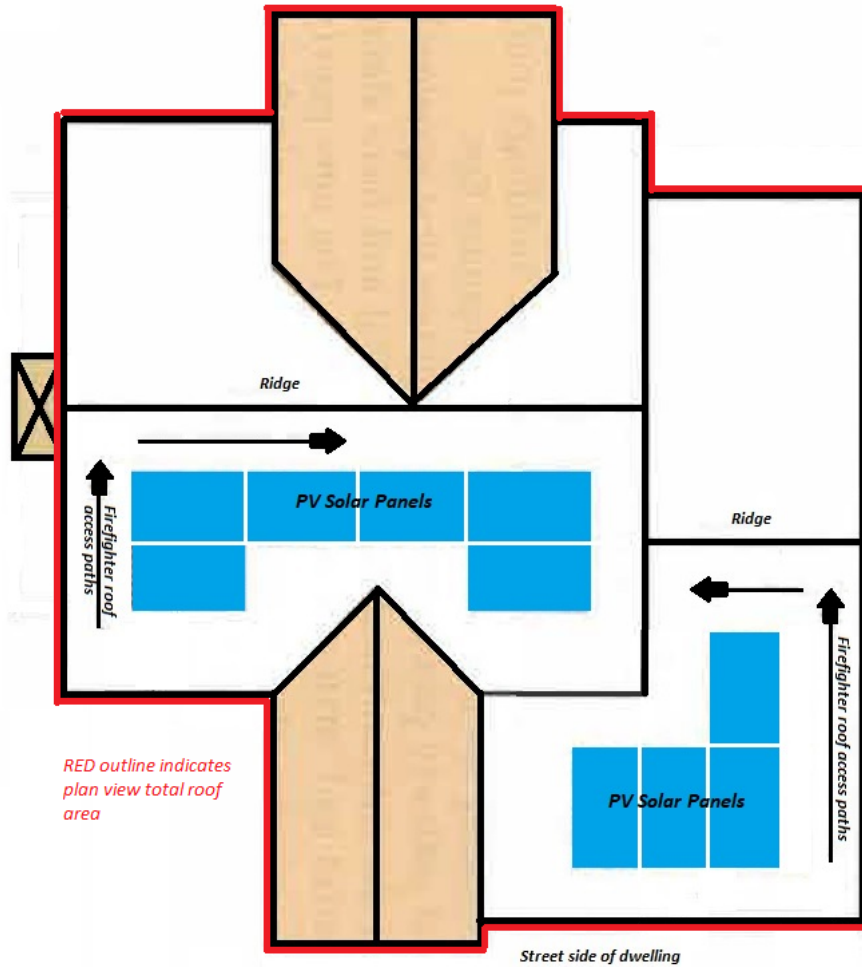


\*\* Please note, the 18" ridge setback is only allowed when the photovoltaic arrays occupy not more than 33% of the plan view total roof area when the dwelling does not have an automatic sprinkler system installed in per NFPA 13D or P2904 as per Section R324.6.2 and R324.6.2.1.

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(Rooftop Photovoltaic Solar Energy Systems – Access and Pathways)



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*(Rooftop Photovoltaic Solar Energy Systems – Access and Pathways)*

**Permits/Fees:** Using the State fee schedule, electrical plan review is dealt with specifically at N.J.A.C. 5:23-4.20(c)iii(13). Building is indirectly dealt with using the cost per thousand fee. Since this is also joint review for building and fire, one should use the building tech with the alteration fee for building work and use the joint plan review for fire, which would encompass the building fee.

**Roof covering replacement:** Since the panels must be removed to install the roof covering, do they have to be replaced in accordance with Section R324.6? The short answer, no as the panels are not being completely replaced nor are they newly installed. And regarding permit requirements, a roof covering replacement on a detached one- and two-family dwelling is considered ordinary maintenance as per 5:23-2.7(c)1x. However, if the rails of the photovoltaic solar energy systems are removed and the grounding/bonding is compromised, this would require an electrical permit to ensure the system is properly reconnected.

Source: Adam Matthews & Keith Makai, Code Assistance Unit  
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