



NC DEPARTMENT OF
INSURANCE
 OFFICE OF STATE FIRE MARSHAL

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November 2019

Contents

Table of Contents

Introduction	2
Current Topics.....	2
Illustrations of the 2017 Electrical Interpretations	2
New Guidance Paper Posted.....	3
Live Remote Inspections.....	3
Web Page Update in Progress.....	3
Recurring Articles.....	3
Building Code Council Approved Rule Changes.....	3
Qualification Board Update.....	5
Residential Changeout Inspector Certification.....	5
Minutes.....	5
Department Notes	5
Engineering Department	5

Personnel Notes	5
New Code Interpretations, Guidance Papers, and Appeals Posted	7
Cumulative Supplements.....	8
Education Section.....	8
OSFM Engineering Division Programs – <i>Inspector Education FY 2019-2020</i>	8
NC Building Code Training.....	9
Reminders and other Resources	9
2018 NC Code Online version.....	9
Ordering the 2018 NC Code – Discounted Code Books.....	9
Accessibility Newsletters	10
2018 NC Codes Errata.....	10

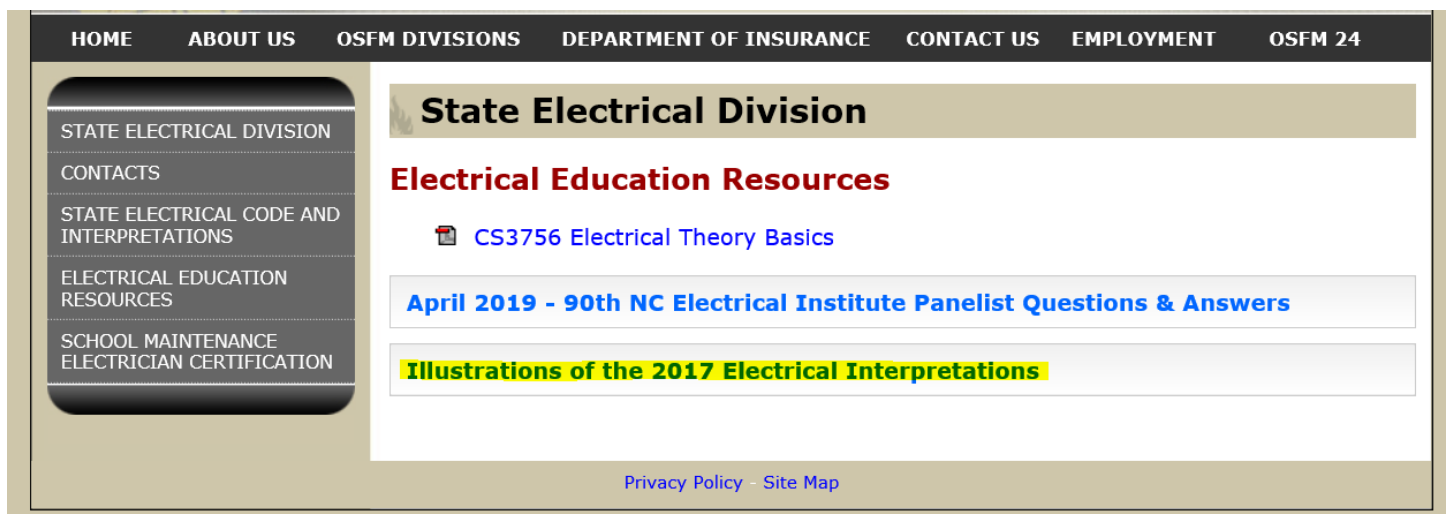
Introduction

Welcome to the November 2019 OSFM Engineering Newsletter. Of note, refer to the Current Topics Section for a notice of the Electrical Division’s illustrations for electrical interpretations, and a new guidance paper—Live Remote Inspections. Please take a moment to read these updates and check out the website where they are located for more information.

Current Topics

Illustrations of the 2017 Electrical Interpretations

In order to assist with the visualization of the electrical systems being discussed in the Electrical Division interpretations, Joe Starling and Danny Thomas have put together a set of illustrations for the more common scenarios. These illustrations are located near the interpretations. Here is what the screen shot looks like:



And here is the link to this site:

https://www.ncdoi.com/OSFM/State_Electrical_Division//Default.aspx?field1=Electrical_Education_Resources

Please visit this site and make use of these tools developed for the use of the NC Electrical Code users.

New Guidance Paper Posted

Live Remote Inspections

The Engineering Division has issued a Live Remote Inspections guidance paper. This paper was approved by the NC Code Officials Qualification Board on October 22, 2019. Inspection departments allowed to perform their inspection responsibilities in any way as desired. The guidance paper offers suggested parameters of performing live remote inspections if an inspection department chooses to utilize this method of inspection. Should a complaint arise where the inspection was performed remotely, adherence to these parameters will be a factor in evaluating the complaint.

The Town of Cary and Brunswick County inspection departments are also exploring the option of inspector to inspector live remote inspections. This occurs when an inspector who does not have the needed inspection certificate is on site and is in direct contact with an in-office inspector who has the needed certification. The onsite inspector performs the live remote portion of the inspection under direction of the in-office inspector for approval. Again, these types of inspections should only be used in specific instances and not as a rule.

Web Page Update in Progress

As reported in our prior newsletter, the NC Department of Insurance is in the process of updating its website. Please be aware that links you have used in the past may no longer be active.

Recurring Articles

Building Code Council Approved Rule Changes

The June and September Building Code Council meetings were held as scheduled. At the June 11, 2019 Building Code Council meeting, there were no D-items up for approval. This is largely due to a weather-cancelation of the December 2018 Board meeting. Please refer to the following link to review the list of D-Items from the March 2019 Building Code Council Meeting:

BCC Meeting Minutes-June 2019

https://www.ncdoi.com/OSFM/Engineering_and_Codes/Documents/BCC_Minutes/2019%2007%2008~June%2011,%202019.pdf

At the September 10, 2019 Building Code Council meeting, there were 18 D-Items and of these 16 were adopted, and 2 were not implemented.

BCC Meeting Minutes-September 10, 2019

https://www.ncdoi.com/OSFM/Engineering_and_Codes/Documents/BCC_Minutes/2019%2009%2018~September%2010,%202019.pdf

Assuming the September BCC-approved D-Items are approved by the Rule Review Commission, the adopted rules will be placed on the NCDOI Engineering website. The compilation of previously approved rules is in the document "**2017-2019 Approved Cumulative Amendments (Effective 1/1/2019)**" document.

2017-2019 Approved Cumulative Amendments (Effective 1/1/2019)

http://www.ncdoi.com/OSFM/Engineering_and_Codes/Documents/2018_NCBuildingCode_amendments/2018_NCBuildingCode_amendments.pdf

The full review of the September-approved code amendments is left to the reader, but **the titles of each item** are bulleted below.

- Item D – 1 Request by Carl Martin representing the North Carolina Department of Insurance to amend the **2018 NC Building Code, Sections 429.1.1 and 430.3**: (Remainder not shown for brevity) – proposal disapproved.
- Item D – 2 Request by Carl Martin representing the North Carolina Department of Insurance to amend the **2018 NC Building Code, Section 714.4.2** as follows: (Remainder not shown for brevity) – proposal approved.
- Item D – 3 Request by Terry Cromer representing the North Carolina Association of Electrical Contractors to amend the **2018 Administrative Code, Section 106.3.1** as follows: (Remainder not shown for brevity) – proposal not implemented.
- Item D – 4 Request by Stuart Laney representing Laney Electrical Construction, Inc. to amend the **2017 Electrical Code, Section 406.4(D)(4)** as follows: (Remainder not shown for brevity) – proposal approved.
- Item D – 5 Request by Colin Triming representing the North Carolina Fire Code Revision Committee to amend the **2018 NC State Building Code, NC Fire Code 505.1.1** as follows: (Remainder not shown for brevity) – proposal approved.

- Item D – 6 Request by Terry Cromer representing the North Carolina Association of Electrical Contractors to amend the **2017 NC Electrical Code, Section 210.8(B)** as follows: (Remainder not shown for brevity) - proposal approved.
- Item D – 7 Request by Jeff Tiller, PE representing Appalachian State University and Robert Privott representing the North Carolina Home Builders Association to amend the **2018 NC Energy Code, Section R406 Energy Rating Compliance Alternative** as follows: (Remainder not shown for brevity) – proposal approved.
- Item D – 8 Request by Jeff Tiller, PE representing Appalachian State University and Robert Privott representing the North Carolina Home Builders Association to amend the **2018 NC Residential Code, Section N1106 Energy Rating Compliance Alternative** as follows: (Remainder not shown for brevity) – proposal approved.
- Item D – 9 Request by Jeff Tiller, PE representing Appalachian State University and Robert Privott representing the North Carolina Home Builders Association to amend the **2018 Residential Code, Section 2 Definitions and the 2018 Energy Code, Section 2 Definitions** as follows: (Remainder not shown for brevity) – proposal approved.
- Item D – 10 Request by Keith Rogers representing the North Carolina Building Code Council Mechanical Standing Committee to amend the **2018 NC Plumbing Code, Section 305.4** as follows: (Remainder not shown for brevity) – proposal approved.

- Item D – 11 Request by Ralph Euchner representing the North Carolina Building Code Council to amend the **2018 NC Plumbing Code, Section 306.2.4 Tracer Wire** as follows: (Remainder not shown for brevity) – proposal approved.
- Item D – 12 Request by Jesse Wade White, Jr., PE representing the North Carolina Building Code Council Electrical Ad Hoc Committee to amend the **2017 NC Electrical Code, Section 695.3** as follows: (Remainder not shown for brevity) – proposal approved.
- Item D – 13 Request by Jesse Wade White, Jr., PE representing the NC Building Code Council Electrical Ad Hoc Committee to amend the **2017 NC Electrical Code, Section 695.2** as follows: (Remainder not shown for brevity) – proposal approved
- Item D – 14 Request by David Smith representing the North Carolina Building Code Council Residential Committee to amend the **2018 NC Residential Code, Section R703.8.2.1 Support by steel angle** as follows: (Remainder not shown for brevity) – proposal approved

- Item D – 15 Request by David Smith representing the North Carolina Building Code Council Residential Committee to amend the **2018 NC Residential Code, Section R403.1.6** as follows: (Remainder not shown for brevity) – proposal approved
- Item D – 16 Request by Ralph Euchner representing the North Carolina Building Code Council to amend the **2018 NC Residential Code, Section P2604.1.4 Tracer Wire** as follows: (Remainder not shown for brevity) – proposal approved
- Item D – 17 Request by Keith Rogers representing the North Carolina Building Code Council Mechanical Standing Committee to amend the **2018 NC Residential Code, Section P2603.5** as follows: (Remainder not shown for brevity) – proposal approved
- Item D – 18 Request by Barry Siegal representing BSC Holdings, Inc. to amend the **2018 NC Building Code, Section 903.2.8 and Table 602 and NC Fire Code, Section 903.2.8 Group R** as follows: (Remainder not shown for brevity) – proposal approved

Qualification Board Update

Residential Changeout Inspector Certification

There is a new inspection certification category. This certification was made mandatory in Session Law 2019-174 (HB 675) effective October 1, 2019. This certification will include very basic replacements of appliances and the electrical connection needed for the replacements. This certification will apply to one-and-two family dwelling units, apartments, and condos, provided the individual residential appliance serves only that residential dwelling unit. This certification will not have a level and will not be limited based on the number of stories.

Rule changes will be needed to incorporate the new inspector category and the requirements for certification. A committee is currently working to develop these requirements. The various committees of the Board will review the proposed rule changes, instructional materials and exam content prior to issuance of the certification. The expectation for the first issuance of this certification will be 9-12 months from the Board approval and submittal to the Rules Review Commission for approval.

Minutes

The minutes of the Qualifications Board Meeting Minutes are available at the following links:

Meeting Minutes and Agendas

http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=COQB_-_Minutes&user=Code_Officials_Qualification_Board&sub=COQB_Meeting

Individuals wishing to provide feedback are encouraged to contact Kathy Williams at Kathy.Williams@ncdoi.gov

Department Notes

Engineering Department

Personnel Notes

There has been some moving around within the Engineering Department due to retirements, new hires, and job duty changes. We have almost all the positions filled. As of this writing, only the Plumbing Code Consultant position is vacant, but we expect to fill that position soon.

Here is the staff as of 11/07/2019:

Chief Code Consultant –	Carl Martin (919-647-0009)
Chief Building Code Consultant –	Bill Kirk (919-647-0025)
Chief Residential Code Consultant -	Ali Kojoori (919-647-0030)
Chief Accessibility Consultant –	Tara Barthelmess (919-647-0014)
Chief Mechanical & – Fuel Gas Code Consultant	David Rittlinger (919-647-0008)
Chief Plumbing Code Consultant -	Vacant
Chief Energy Code Consultant –	Dan Dittman (919-647-0012)
Chief Fire Prevention Code Consultant –	Charlie Johnson (919-647-0094)
Chief Existing Building Code Consultant –	Dan Austin (919-647-0011)
Chief Administrative Code Consultant –	Mike Page (919-647-0017)
NCDOT Outreach -	Bill Murchison (919-647-0016)
NCDOT Building Inspector –	Jim Rodgers (919-647-0056)

Here are short bios for the people who have joined our department:

David Rittlinger

David Rittlinger, P.E. is the new Chief Mechanical Code Consultant. David is a mechanical engineer with a BS in Mechanical Engineering from NC State University. He is a licensed professional engineer in North Carolina and Virginia. For the last 18 years, he has been employed by both large and small mechanical design and construction firms as project engineer and project manager.

Tara Barthelmess

Tara Barthelmess has joined the OSFM team as the Chief Accessibility Codes Consultant. She comes from Wake Tech Community College where she has taught Interior Design including some Code/Accessibility content. Previously she taught at Wake County Public Schools. She has run her own Interior Design firm and worked with Architectural Firms in New York and Arizona.

Charlie Johnson

Charlie Johnson has been the Chief Fire Code Consultant since September 1, 2019. He previously served as the Fire Code Outreach Consultant for the department since February 1, 2018. Charlie retired as the Wake County Fire Marshal in January 2018 and has over 35 years of experience in the fire service.

Bill Murchison

Bill is joining us in Engineering as a Building Code Outreach Consultant. He is a retired State Construction employee, prior to working with State Construction he worked with DOI as a code consultant and plan reviewer. He held Building Code and Fire Inspector Level III Inspector certificates. He is a registered Structural Engineer, worked with large engineering firms and owned his own small consulting engineering firm.

Bill's work experience includes the structural design of highway bridges, buildings, water treatment and wastewater treatment plants. When previously with DOI he reviewed plans and provided support to the Structural Committee. He developed design tables and code revisions that were placed in both the Commercial and Residential Building Codes.

Jim Rodgers

Jim is joining the division as a NCDOT Building Inspector. He retired from the Durham City/ County Inspections Department after 25 years as a Building Inspector III and 6 years as a Building Inspector Supervisor. Cliff Isaac will be utilizing him as “boots on the ground” for his building contractor performance improvement effort throughout the state.

Mr. Rodgers retired in April of this year and was recruited by Cliff Isaac in September to be part of his “15 item list” project, working with contractor project managers and framing crews to improve their performance on framing inspections. The flip side of this effort is working with Inspections Departments to improve inspector consistency and code knowledge. Mr. Rodgers has been walking jobs with superintendents and riding along with inspectors to promote better quality and fewer re-inspections, and he also assists Engineering Staff with code interpretations when he is in the office.

Bill Kirk

Bill has taken the Chief Building Code Interpretations Position Vacated by Carl Martin. Bill Started his career with DOI/OSFM in 2015 in the interpretations section as the Chief Residential Code Consultant. He stayed there for nearly 3 years before transferring to the Private Plans Review Section. Recently Bill Decided to take the interpretations challenge again and applied for the Building Code Consultant. Just after high school Bill began his career with the US Air Force as a weapons mechanic for fighter aircraft. He then graduated from VPI, obtained his PE, and owned/operated his own engineering firm in Cary for 20 years.

New Code Interpretations, Guidance Papers, and Appeals Posted

The office is in the process of rolling over the still-pertinent 2012 interpretations into a new 2018 slot. There are over 200 interpretations that have been updated and rolled forward. Staff is working to complete the task. Please note that sometimes the references change, so it may not be in the exact place you were used to seeing an interpretation that has been posted before.

Code, Guidance, Appeals link:

[http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Code Interpretations&user=State Building Codes](http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Code_Interpretations&user=State_Building_Codes)

Interpretations

Energy

- R402.1.2 - Air Films and Simplified R-Value for Walls in One- and Two-Family Dwellings.pdf
- R402.1.4 - Calculating Wall U-Factors for Compliance with Table R402.1.4.pdf
- R503.2 - Heating Cooling Existing Screened and Enclosed Porches and Decks with Mini Split System.pdf
- R504.2 - Repairs - Wall Cavity Insulation.pdf

Residential

- AM111.1 - Notching Deck Rail Post.pdf
- AV105 - Swimming Pool Barrier Permits.pdf

Accessibility Interpretations

The accessibility interpretations/newsletters/presentations are located on their own webpage, see following link:

[http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Code Enforcement - Accessibility Update - Newsletters&user=Code Enforcement Resources&sub=Accessibility Update](http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Code_Enforcement_-_Accessibility_Update_-_Newsletters&user=Code_Enforcement_Resources&sub=Accessibility_Update)

Also refer to the Reminders and other Resources section for a summary table of the volumes and issues posted.

Electrical Interpretations

On the main matrix showing interpretations, the cell for Electrical – 2017 is blank. However, there are interpretations for the 2017 NC Electrical Code, but they are available in a different location, see following link:

[http://www.ncdoi.com/OSFM/State Electrical Division//Default.aspx?field1=State Electrical Code and Interpretations](http://www.ncdoi.com/OSFM/State_Electrical_Division//Default.aspx?field1=State_Electrical_Code_and_Interpretations)

Also be sure to check out the illustrations for selected interpretations available under the Electrical Education Resources tab.

Formal Interpretations and Appeals

No formal interpretations or appeals since prior newsletter

Formal interpretations and Appeals are available in the interpretations link shown above. They are located under the table heading "SPECIFIC ACTIONS".

Cumulative Supplements

Cumulative code changes and their adoption dates can be found on the DOI website at:

Cumulative code changes link:

http://www.ncdoi.com/OSFM/Engineering_and_Codes/Documents/2018_NCBuildingCode_amendments/2018_NCBuildingCode_amendments.pdf

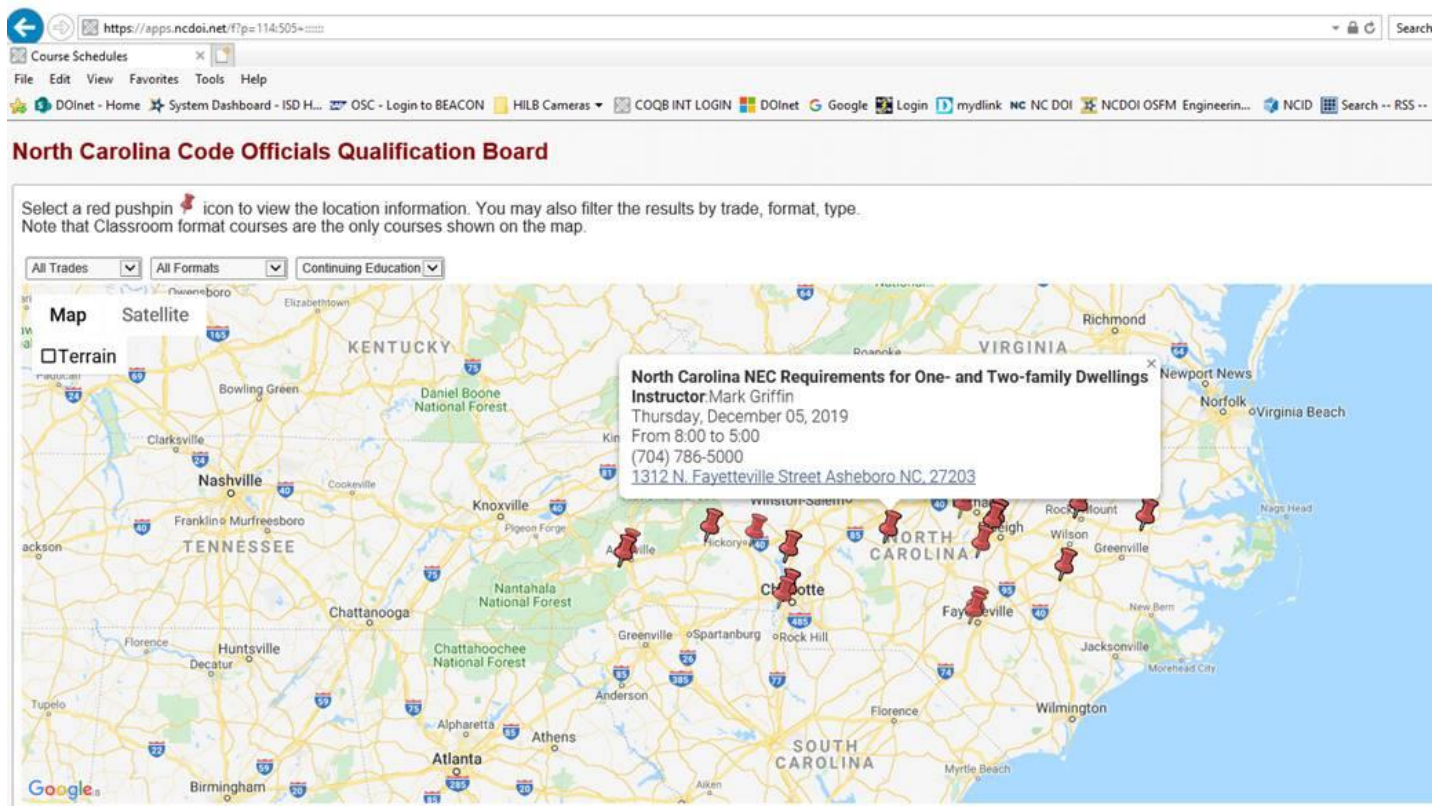
Remember, refer to NC Administrative Code section **102.4 Effective date of rules**, and **102.5 Interim use of approved rules** for clarification of effective dates and the process for using approved rules prior to the effective date.

Education Section

OSFM Engineering Division Programs – *Inspector Education FY 2019-2020*

A user-enhancement has been made to the [Student Resources](#) link on the OSFM web page. The [FIND A CLASS](#) button now provides a map with pins locating upcoming courses within a 90 day time frame.

This should enable students/CEOs, and members of the general public to more easily find courses nearby.



Please email mike.hejduk@ncdoi.gov with your comments, questions or concerns.

NC Building Code Training

The most up-to-date training schedule for all building codes are available at the following link:

[http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Code Education -
_Student Main&user=Code Education Resources](http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Code_Education_-_Student_Main&user=Code_Education_Resources)

Once the web page is accessed, click the “**FIND A CLASS**” button to refine your search. As always, please consider the use of the Standard Classes if you are a design professional, contractor, or code official, as they are an underutilized offering and are the primary source of code training in NC. They are, by design, the most thorough code training provided. All standard courses are now using the 2018 Code, so this is an excellent opportunity to both get the code updates and a more in-depth knowledge of the codes.

In addition to the link above, you can also check out the websites of the professional organizations related to code; here are the links to the main organizations:

COCO Newsletters

[http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Code Enforcement -
_COCO Newsletters&user=Code Enforcement Resources](http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Code_Enforcement_-_COCO_Newsletters&user=Code_Enforcement_Resources)

<http://www.ncbia.org/>

<http://ncpia.us/>

<https://www.nc-mia.com/> (note new website address – formerly www.ncmia.com)

<http://www.ncfma.com/>

<http://www.nciae.org/>

Reminders and other Resources

2018 NC Code Online version

As reported in previous newsletter, the 2018 NC Code is available on-line for free viewing, but it does not have full functionality. Although there was, for a while, a 2012 free on-line code that is fully downloadable and printable, THERE ARE PRESENTLY NO PROVISIONS FOR MAKING THE 2018 CODE THIS WAY. The 2012 code can still be viewed on-line, but the printability went away at the end of 2018 as required by the contract.

Ordering the 2018 NC Code – Discounted Code Books

To receive the on-line “members” purchasing discount, ANYONE can go through NC Department of Insurance Website, following this path:

1. [https://ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Codes -
_Code Book Sales&user=State Building Codes](https://ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Codes_-_Code_Book_Sales&user=State_Building_Codes)
2. After the Code Book Sales web page opens, press the “Purchase State Building Code On-line” hyperlink. See July 26, 2018 Engineering Newsletter for screen shots of webpages, or just go to the DOI website.
3. This is the web address that will take you to ICC’s webpage that has all the North Carolina Code Books. When you order from the site you are redirected to, you will receive the discount. **If you enter the ICC Webpage directly, you will not get the discount.**

There are several different links on the DOI website to get to “purchase codes” online. All of them link to the same place on the ICC website and the discount will be applied. Only one of the links is shown in this article. If you are on the ICC website, and back-out of the path, and then go back into the ordering process from within the ICC website, you may not get the discount. You may want to start over with the NCDOL website if you are not sure you are getting the members only discount.

Accessibility Newsletters

There are many presentations and interpretations in the newsletters for Accessibility. They are available at the following link: [http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Code Enforcement - Accessibility Update - Newsletters&user=Code Enforcement Resources&sub=Accessibility Update](http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=Code_Enforcement_-_Accessibility_Update_-_Newsletters&user=Code_Enforcement_Resources&sub=Accessibility_Update)

The statements and views in these newsletters carry the same weight as a web interpretation. Many of them are case studies and may be project-specific, but they are generally covering a topic that can be applied to other similar buildings.

Please note the newsletter is for multiple years, and you want to make sure the issue you are researching is not superseded by a later edition. The issues are posted in chronological order (oldest at the top, newest at the bottom of the webpage). The volume # is simply referring to the sequence in which it was published and not an actual calendar year. Likewise, the Issue # is the sequential newsletter of that year and does not necessarily correspond to a month. Refer to Table 1 for details.

TABLE 1: VOLUME AND ISSUE CROSS-REFERENCE TO CALENDAR YEAR

Volume #, Issue #'s	Corresponding Year
Volume 1, Issue 1,2,3	2010, 3 Issues
Volume 2, Issue 1,2,3,4,5,6,7	2011, 7 issues
Volume 3, Issue 1,2,3,4	2012, 4 Issues
Volume 4, Issue 1,2,3,4	2013, 4 Issues
Volume 5, Issue 1,2	2014, 2 Issues
Volume 6, Issue 1,2	2015, 2 Issues
Volume 7, Issue 1,2,3,,,8	2016, 8 Issues
Volume 8, Issue 1,2,3,,,11	2017, 11 Issues
Volume 9, Issue 1,2,3,,,8..	2018, 8 issues to date
Volume 10, Issue 1,2,3	2019, 3 issues

Titles From Volume 10, Issue 1,2,3 include:

NCBC 1110.2 Exception – Swimming Pools
Case Study: MF Subdivision – Options for Compliance (pertains to Cluster Boxes for mail)
Exemptions for Exits in Existing Buildings
NC Existing Building Code 410 Commentary
Public Beach Access Routes – Reminder
New Restroom in 1800s Church
NCBC 1109.13 Thermostat Mounting Height
NCBC 1107.6.2.2.1 – Type A calcs

2018 NC Codes Errata

With the release of the 2018 NC Building Codes, you may discover errors in the documents. If you discover an error, we would like to invite you to share it with our staff as we verify and document these discrepancies. We will then forward them to ICC or post them on our website dependent upon whether the correction is related to the base document or the NC amendments.

Errata is different from a desired code change. Errata are basically editing mistakes, such as dropped footnotes, references to code sections that got moved or misplaced, references to table or figures that are inaccurate, etc. Seemingly insignificant grammar changes that change the code meaning **would not automatically be considered errata**.

Please submit your corrections to the following contacts:

Bill Kirk	Building	bill.kirk@ncdoi.gov
Ali Kojoori	Residential	ali.kojoori@ncdoi.gov

Dan Dittman	Energy	Dan.Dittman@ncdoi.gov
Charlie Johnson	Fire	Charlie.johnson@ncdoi.gov
Dan Austin	Existing Building	dan.austin@ncdoi.gov
Vacant	Plumbing	dan.dittman@ncdoi.gov
David Rittlinger	Mechanical, Fuel Gas	david.rittlinger@ncdoi.gov
Joseph Starling	Electrical	joseph.starling@ncdoi.gov
Mike Page	Administrative	mike.page@ncdoi.gov
Tara Barthelmess	Accessibility	tara.barthelmess@ncdoi.gov

Current ICC Errata are posted at <http://www.iccsafe.org/cs/codes/Pages/errata.aspx>

Current (2012) NC Errata are posted at:

http://www.ncdoi.com/OSFM/Engineering_and_Codes/Documents/2012_NCBuildingCode_amendments/Errata%20Central.pdf

As soon as errata are identified, they will be posted to a site very close to the 2012 errata location. The reader can use the 2012 sheets as examples to what errata are vs. amendments.

End of Newsletter