



NC DEPARTMENT OF
INSURANCE
OFFICE OF STATE FIRE MARSHAL

A New Beginning





It is our mission to provide superior customer service throughout the state by providing resources, knowledge and guidance to all. Under the leadership of **Insurance Commissioner Mike Causey** and **Chief State Fire Marshal Brian Taylor**, the Engineering Services Division is committed to partnering with all parties throughout the construction community to bring about solutions to today's complex issues.

We are committed to providing leadership and building North Carolina together.

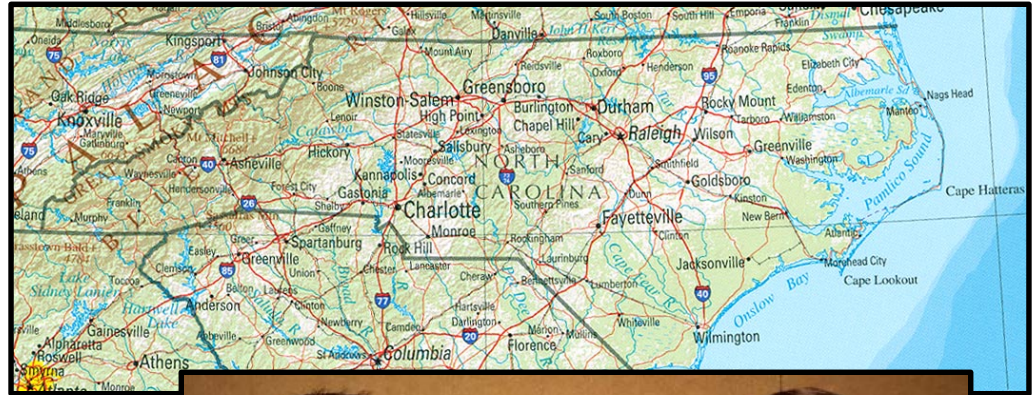




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New leadership team at NCDOI
Moved into the Albemarle Building
Reorganized Divisions





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Cliff Isaac, PE

Deputy Commissioner of Engineering and Building Codes

Licensed General Contractor

Licensed Professional Engineer

Certificated Level III Inspector in Building, Fire,
Plumbing, Mechanical and Electrical

Certified Floodplain Manager

Serves on the NC Structural Pest Control Committee, NC Code Officials
Qualifications Board and the NC Licensing Board for Electrical Contractors

Former Elected Official in Catawba County

Former Board member of the Catawba County Planning Board,
Unified Development Ordinance Committee and the Thread Trail Committee

Eagle Scout



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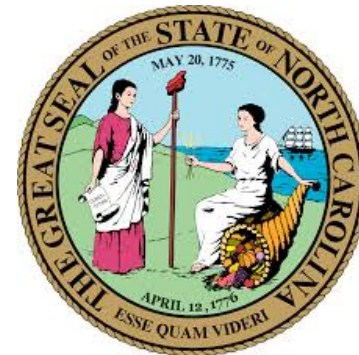


Research

- Visited 45 Building Inspection and 8 Fire Marshal Departments
 - Met with the NC Home Builders Association
 - Met with NC Representatives and NC Senators
 - Met with several statewide Boards
 - Met with the League of Municipalities
 - Met with Developers and Home Builders
 - Met with local Home Builder Associations
 - Collected data from email surveys
- Reported to the Building Code Council and Committees
 - Investigated and followed up on issues



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Identified Major Issues

- Some Departments required more than the 8 called out inspections in the NC Administrative and Policies Code
- Little guidance and direction on statutes from NCDOL
- North Carolina's construction industry is busy
- Some Jurisdictions are using the inspection fees for other purposes than the Inspection Department's activities
- Enforcement of Code is not consistent throughout the State
- Some builders are not supervising their projects
- Lack of education and knowledge across the State



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The 5-Star Plan

The simple logical solution.





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Point One

- Some Departments **required more** than the 8 called out inspections in the NC Administrative and Policies Code

SECTION 107 INSPECTIONS

107.1 General. The inspection department shall perform the following inspections:

1. Footing inspection;
2. Under slab inspection, as appropriate;
3. Foundation inspection;
4. Rough-in inspection;
5. Building framing inspection;
6. Insulation inspection;
7. Fire protection inspection; and
8. Final inspection.

NC Qualifications Board sent out a memo on February 1, 2018 to clarify the number of inspections and not to exceed the eight prescribed within the Code. House Bills 120, 255 and 252 have passed and are law.

NCDOI has also been visiting jurisdictions and providing guidance on courtesy inspections, etc.



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Point Two

- Little guidance and direction on [statutes](#) from NCDOI

Engineering and Codes

ENGINEERING AND CODES » STATE BUILDING CODES

State Building Codes

Code Interpretations

Guidance Papers

GS 143-138 - Wedding Venues and Farm Buildings.pdf	
GS 143-138 GS 87-97 - Inspection of Well Systems.pdf	
GS 153A-352 GS 160A-412 - Acceptance of Licensed Architect or Engineer Inspections.pdf	
GS 153A-352 GS 160A-412 - Inspection Department Informal Internal Review Process.pdf	
GS 153A-363 GS 160A-423 - Certificates of Occupancy.pdf	

RESOURCES

- [2012, 2009, 2006, 2002 NC Codes](#)
- [NC Electrical Code](#)
- [Accumulative Supplement to the 2012 NC Building Code](#)

NCDOI has started guidance papers on statutes which promote consistency and understanding. We have met with key people, board members, inspection departments, developers, citizens, and associations to develop these guidance papers.

NCDOI is also working to make interpretations that will assist the construction community.



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Point Three

- North Carolina's construction industry is **busy**

NOTICE

We have moved to the Albemarle Building on 325 N. Salisbury Street, Raleigh, NC. Our mailing address will still be 1202 Mail Service Center, Raleigh, NC 27699-1202. Please call our main number for assistance – 919-647-0000.

Engineering and Codes

Choose the area that best identifies what you are looking for:

- ☒ State Building Codes
- ☒ Code Book Sales
- ☒ Code Enforcement Resources
- ☒ Code Education Resources
- ☒ Code Enforcement Officials (CEO) Certification Tools

Boards and Councils

- ☒ Building Code Council
- ☒ Code Officials Qualification Board
- ☒ Home Inspectors Licensure Board

RESOURCES

- ☒ Staff Directory
- ☒ Code Book Sales
- ☒ Find a QBoard Education Course
- ☒ Find a Home Inspector
- ☒ Find a NC Code Enforcement Official
- ☒ Inspector Marketplace (sign up)
- ☒ Inspector Marketplace (CEO list)
- ☒ Engineering Newsletters
- ☒ COCO Newsletters
- ☒ Home Inspector Newsletters
- ☒ Accessibility Newsletters
- ☒ Online Code Enforcement Continuing Education

NCDOI created the Inspector Marketplace where retired or part-time inspectors can sign up if interested. Jurisdictions can log in and thumb through the list and find a close inspector. They can hire the inspector to assist them during this busy time. To date, 89 inspectors have signed up.

The Qualifications board is in the process of requesting a statute change to allow ICC Certifications to be accepted in North Carolina.

We are also encouraging jurisdictions to hire and train more personnel.



Point Four

- Some Jurisdictions are using the inspection fees for other purposes than the Inspection Department's activities

Through visiting jurisdictions, it has been discovered that inspection fees collected were supporting the general budget of some jurisdictions and are being used for other purposes besides the inspection department's operating budget. The statute gives no indication if such financial support is based year to year or not. Some jurisdictions have used inspection fee surpluses to supplement past year budget deficits. Other jurisdictions reorganize their inspection departments to include the planning, zoning, and other non-direct personnel to facilitate paying them through inspection fees. By not utilizing the fees properly, or by adding unrelated functions to the inspections department, the jurisdiction is inadvertently stifling its own growth.

PART VII. INSPECTION FEES TO BE SPENT ONLY FOR ACTIVITIES OF INSPECTION DEPARTMENT

SECTION 7.1. G.S. 153A-354 reads as rewritten:

"§ 153A-354. Financial support.

A county may appropriate any available funds for the support of its inspection department. It may provide for paying inspectors fixed salaries, or it may reimburse them for their services by paying over part or all of any fees collected. It may fix reasonable fees for issuing permits, for inspections, and for other services of the inspection department. All fees collected under the authority set forth in this section shall be used for support of the administration and activities of the inspection department and for no other purpose."



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Point Five

- Enforcement of Code is **not consistent** throughout the State
 - Some builders are **not supervising** their projects
 - **Lack** of education and knowledge across the State

NCDOL recognizes that it is difficult for builders and contractors to estimate and manage across jurisdictions when inspections are not consistent.

We also discovered that some builders are not supervising their projects, which wastes valuable time and resources. These inspectors have a number of inspections to perform everyday and cannot afford to stay at any one project for hours upon hours. This hurts the builders and contractors who are supervising their projects as their inspections get bumped. This is more prevalent in the high growth areas throughout our state.



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Point Five (cont.)

According to our research, 45-60 minutes is the time in which a typical first-time framing inspection would take. Typically, on homes where there is a supervisor making sure the Code is met, there may be a few violations that would allow the permit holder to pass a re-inspection. There are homes in which (if the inspector did not stop inspecting the job because it was not ready or incomplete) the number of violations could reach 30 to 70 on a first-time framing inspection. These lists are commonly called a “punch list”, and some builders are happy to pay re-inspection fees verses paying for a supervisor to fix any Code violations before the inspections.

The very statutes we are talking about today removed some responsibility from the Code Official (inspector) and placed that on the permit holder (builder). The next slides are of a first framing re-inspection where there was no supervision on the project.

**Masonry, Framing and alternative
materials.**



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Parcel ID: [REDACTED]
Application Date: [REDACTED]
Application #: [REDACTED]
Address: [REDACTED]
Owner: [REDACTED]
Application Type: BLDG- NEW SNGL FAM DETACHED

Inspections for Permit Number: 000 000 00 - BLDG/SINGLE FAMILY/RES/DET

Inspection type/sequence: Building Framing 2500-5000 SQ / 0004
Inspector assigned: [REDACTED]
Schedule Date: 01/23/18
Results Date: 01/23/18
Results Status: DISAPPROVED WITH PENALTY

Request Comments:

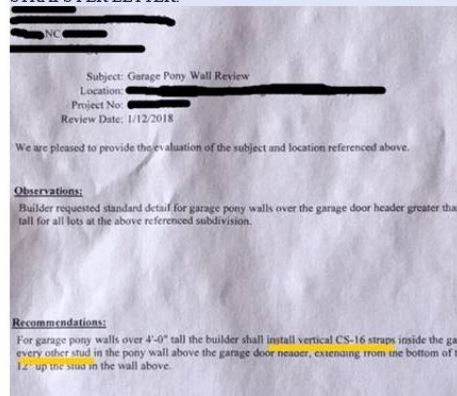
Result Comments:

January 23, 2018 11:03:57 AM sedwards.

Previous items not completed from original list created:
December 22, 2017 11:13:16 AM sedwards.

← 30 Days!

1) Garage portal framing pony wall above header is 5'-6" and max per design is 2'. Provide sealed alternate for 5'-6" pony wall: PER PROVIDED SEALED LETTER CS16 STRAP REQUIRED EVERY OTHER STUD. INSTALL STRAPS PER LETTER.





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4) Right rear corner of garage tie top plates: TOP PLATES STILL NOT TIED.



6) Location on horizontal sheathing joint for garage portal framing only 7" above sill plate and not per detail. Install per sealed detail or provide sealed alternate: PROVIDED ENGINEERING LETTER IS GENERIC LETTER FOR PONY WALLS OVER 4" AND doesn't ADDRESS SHEATHING JOINT 7" ABOVE FOUNDATION.

7) Multiple locations through out walls with specified detail W10/LAT2 only have (1) H2.5A 32" OC top and bottom and seal detail specifies (2): Install per sealed detail or provide sealed alternate: STILL ONLY 1 INSTALLED.

Missing 4 of 5 nails and only 1 installed when 2 specified.



8) Shear wall connection notes are for a slab foundation and this is a crawl foundation: Need sealed 1st floor framing plan for crawl foundation: NOT ADDRESSES STILL NEED PLANS AND DETAILS FOR CRAWL FOUNDATION.

10) Multiple locations missing the (2) MTS16 per truss connections specified on sealed plans: NO CHANGE STILL MISSING.



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11) Top mount hanger not properly installed at stairs:
Hammered in after subflooring installed: HANGERS STILL NOT
PROPERLY INSTALLED AND MISSING NAILS IN TOP FLANGE TO TOP MOUNT HANGERS.



12) Plans specified detail W05/LAT2 multiple locations
straps not bent over top plates: Install per sealed plans:
STRAPS STILL SHIRT AND NOT LAPPED OVER TOP PLATES AND NAILED PER DETAIL.

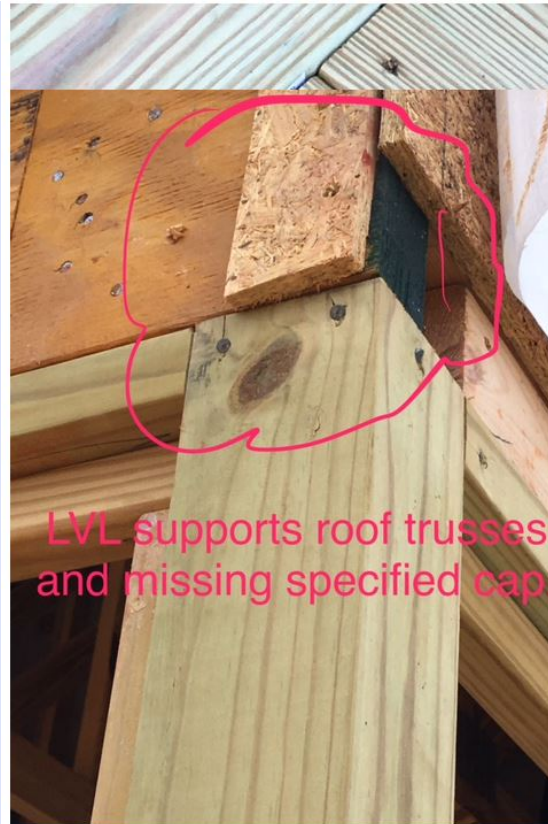




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13) Rear porch post missing specified basses and caps need for uplift: LVL beam spans 20' and supports 10 roof trusses:
STILL MISSING PLAN SPECIFIED UPLIFT CONNECTIONS.



14) Rear porch DBL 14" LVL beam only 1 ply full bearing on post: ONE PLY STILL 1 3/4" SHORT.



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15) DBL 16" LVL hanger altered by bending flange flat and missing nails: STILL BENT AND MISSING NAILS.

16) Front porch header covered: Expose for inspection: STILL COVERED.

17) Front porch header missing center post, post cap and base specified on sealed plans: POST INSTALLED BUT BOTTOM PROJECTING 2 1/2" PAST FOUNDATION AND BASE MISSING REQUIRED 5/8" ANCHOR BOLT. NOT EVEN ATTACHED TO FOUNDATION.



18) Rear garage wall specified W10/LAT2 detail: This detail is for a load bearing wall with uplift. The rear wall is a non-bearing wall with no uplift: Plans/design needs to match construction: STILL NEED PLANS AND DETAILS THAT MATCH CONSTRUCTION.



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Point Five (cont.)

NCDOL is committed to work together with the construction industry throughout North Carolina to assist in the education of Code Officials and builders. NCDOL strongly recommends investing in five positions within NCDOL that would produce consistent application of the Code throughout the state. The responsibility of such a position, named appropriately, "Chief State Building Code Official", would include *visiting jurisdictions to train Code Officials and builders, creating code violation check lists, producing YouTube videos of each type of inspection to be posted online, conducting conference calls, performing field inspections classes, and solving issues across the state. These positions (building, fire, plumbing, mechanical, and electrical) would work with the engineering consultants from NCDOL on problems found in the field and develop a more encompassing interpretation process which would include alternative methods/materials.*



Point Five (cont.)

- Enforcement of Code is **not consistent** throughout the State
 - Some builders are **not supervising** their projects
 - **Lack** of Education and knowledge across the State

NCDOL recognizes the need for such positions to truly solve these three major discoveries listed above. Having builders understand what inspectors will be checking would save a tremendous amount of time and money for everyone. Working with home builders to address some of the top issues would also assist in projects being completed faster. Some of those issues are:

- Job not ready / Incomplete work
- Site plan and/or plans not on site, accurate or correct.
- Job superintendent / project managers not managing the job for Code compliance
- Failure to obtain approval prior to deviation from approved engineering plans
- Loads not transferred to bearing elements / Inadequate fastening of structural members
- Didn't know they needed a permit / lack of code and statutory knowledge
- Incorrect contacts and information on permits
- Inadequate grading / drainage



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The completion of the 5-Star Plan will have positive effects throughout the state. The entire *home building community* stands to benefit. Less cost, more inspections, and improved Code compliance will result in less time and money for home builders, jurisdictions, and the citizens of our state.

A simple analysis of such savings could conservatively reduce the time it takes to build a home by 30 days, and thus; further reduce the amount of money spent to fix Code violations or issues on a given home. Local jurisdictions could perform more inspections through the completion of the points within the 5-Star Plan. The estimated savings could be greater than \$2,000 per home. With close to 60,000 homes per year being built in our state, the savings will be substantial every single year.

Let's build North Carolina together.



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