

**Minutes of the North Carolina Building Code Council
December 10, 2012
Raleigh, NC**

All members of the North Carolina Building Code Council were present for the Council Meeting with the exception of Paula Strickland and Leah Faile.

The following are summary minutes. The official minutes of this meeting are recorded on CD. Anyone desiring verbatim CDs or excerpts from these CDs should contact the Engineering Division of the NC Department of Insurance for information and reproduction costs. The next scheduled NC Building Code Council meeting will be held March 11, 2013. The location will be announced 30 days before the meeting.

Part A – Administrative Items

Item A – 1 Ethics Statement: Inquire upon conflicts of interest or appearance of conflicts of interest that exist within the Council.

There were no actual or potential conflicts of interest noted.

Item A – 2 Approval of minutes of the September 10, 2012 NC Building Code Council Meeting.

A motion to accept the September 10th meeting minutes was made and the minutes were approved with modifications to Item A-4.

Item A – 3 Lincoln County Local Fire Code Ordinance

Motion – Alan Perdue/Second – Kim Reitterer/Approved as modified to delete all references to the Lincoln County UDO – The request was approved unanimously.

Item A – 4 City of Fayetteville Local Fire Code Ordinance

Motion – Alan Perdue/Second – Kim Reitterer/Approved – The request was approved unanimously.

Item A – 5 Hoke County Local Fire Code Ordinance

Motion – Alan Perdue/Second – Kim Reitterer/Approved – The request was approved unanimously.

Item A – 6 Eustace Conway, director of Turtle Island Preserve in Boone, NC, to address the Council.

A presentation was made by Eustace Conway and colleagues. Chairman Dan Tingen asked Chris Noles to meet with Mr. Conway to guide him in the appeal process. Chairman Tingen offered a motion for NCDOI Staff to research and to reach out to Watauga County and also asked staff to find out if at least some of Turtle Island Preserve would be workable during the process.

Motion for NCDOI Staff to research and to reach out to Watauga County and for Staff to find out if at least some of the Turtle Island Preserve would be workable during the process – Dan Tingen/Second – Kim Reitterer/Approved – The request was approved unanimously.

Item A – 7 Rules Review Commission Meeting Report

Barry Gupton reported that the two Temporary Rules from the BCC September meeting were approved at the RRC September meeting, effective October 1, 2012. The three D-Items were also approved as Permanent Rules, effective January 1, 2015.

Item A – 8 Public Comments

There were none.

Part B – New Petitions for Rulemaking

The following Petitions for Rulemaking have been received since the last Council meeting. The Council will vote either to deny or grant these Petitions. The Council will give no further consideration to Petitions that are denied. Petitions that are granted may proceed through the Rulemaking process. The Council may send any Petition to the appropriate committee. The hearing will take place during or after the March 2013 meeting.

Item B – 1 Request by Tom Brown, with the NC Building Inspectors Association, to amend the 2012 NC Residential Code, Sections R101.2, R101.2.1, R101.2.2, and R202. The proposed amendment is as follows:

R101.2 Scope. The provisions of the NC Residential Code for One- and Two-family Dwellings shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and multiple single family dwellings and (townhouses) not more than three stories above grade plane in height with a separate means of egress and their accessory buildings and structures.

Exception: Live/work units complying with the requirements of Section 419 of the North Carolina Building Code shall be permitted to be built as one- and two-family dwellings or townhouses. Fire suppression required by Section 419.5 of the North Carolina Building Code when constructed under the North Carolina Residential Code for One- and Two-family Dwellings shall conform to Section 903.3.1.3 of the International Building Code.

Section R101.2.1 Accessory buildings. Accessory buildings with any dimension (plan area and mean roof height) greater than 12 feet (3658mm) must meet the provisions of this code. Accessory buildings may be constructed without a masonry or concrete foundation, except in coastal high hazard areas, provided all of the following conditions are met:

1. The accessory building shall not exceed 400 sq. ft. (37m²) or one story in height; and
2. The building is supported on a wood foundation of a minimum 2x6 or 3x4 mud sill of approved wood in accordance with Section ~~323~~ R317; and
3. The building is anchored to resist overturning and sliding by installing a minimum of one ground anchor at each corner of the building. The total resisting force of the anchors shall be equal to 20 psf (958 Pa) times the plan area of the building.

Exception: Tree houses supported solely by a tree are exempt from the requirements of this code.

Section R101.2.2 Accessory structures. Accessory structures are not required to meet the provisions of this code except decks, gazebos and shelters, carports, and retaining walls as required by Section R404.4, are not required to meet the provisions of this code. For swimming pools and spas, see Appendix G. and pools or spas per Appendix G.

Exception: Portable lightweight aluminum or canvas type carports not exceeding 400 sq. ft. or 12' mean roof height are exempt from the provisions of this code.

In Section R202 Definitions delete and replace definition of Accessory Building and Accessory Structure:

~~**ACCESSORY BUILDINGS.** In one and two family dwellings not more than three stories high with separate means of egress, a building, the use of which is incidental to that of the main building and which is detached and located on the same lot.~~

ACCESSORY BUILDING. A building where its use is incidental to that of the main one- and two-family dwelling and is detached and located on the same lot with its own means of egress. An accessory building is a building that is roofed over and more than 50% of its exterior walls are enclosed. Examples of accessory buildings are garages, storage buildings, workshops, boat houses, etc.

~~**ACCESSORY STRUCTURE.** Accessory structure is any structure not roofed over and enclosed that is not considered an accessory building located on one and two family dwelling sites which is incidental to that of the main building. Examples of accessory structures are, but not limited to; fencing, decks, gazebos, arbors, retaining walls, barbecue pits, detached chimneys, tree houses, playground equipment, yard art, etc. Accessory structures except decks, gazebos, and retaining walls as required by Section R404.4, are not required to meet the provisions of this code.~~

ACCESSORY STRUCTURE. An accessory structure is any structure that does not meet the definition of an accessory building (roofed over and more than 50% of its exterior walls enclosed) which is detached and incidental to that of the main one- and two-family dwelling. Examples of accessory structures are fences, decks, gazebos and

shelters, arbors, pergolas, retaining walls, barbecue pits, detached chimneys, playground equipment, yard art, carports, etc.

Motion – David Smith/Second – Bob Ruffner/Approved as modified. – The request was granted unanimously.

[Note: Verify ~~strike-throughs~~ and underlines.]

Item B – 2 Request by Jeff Griffin, from Mecklenburg County, to amend the 2012 NC Residential Code, Chapters 3 and 7. The proposed amendment is as follows:

Revise Section R302.1 item #1 to read:

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the fire separation distance. Townhouse eave projections shall comply with R302.2.5 and R302.2.6.

Revise Section R302.2.6 Townhouse eave projections item #3 to read:

3. Eaves shall have not less than 1 ~~hour~~ layer of 5/8” type X gypsum or equivalent fire-resistive construction on the underside.

(Delete Section R703.11.3 Soffit) and replace with new Section R302.1.1 Soffit protection:

R302.1.1 Soffit protection. In construction using vinyl or aluminum soffit material the following application shall apply. Soffit assemblies located on buildings with less than a 10’ fire separation distance shall be securely attached to framing members and applied over fire retardant treated wood, 23/32 inch wood sheathing or 5/8 inch exterior grade or moisture resistant gypsum board. Venting requirements shall be provided in both soffit and underlayments. Vents shall be either nominal 2-inch (51mm) continuous or equivalent intermittent and shall not exceed the minimum net free air requirements established in Section R806.2 by more than 50%. Townhouse construction shall meet the additional requirements of R302.2.5 and R302.2.6.

Exception:

1. Soffits, any portion of, having 10’ or more fire separation distance.
2. Roof rake lines where soffit doesn’t communicate to attic are not required to be protected per this section.
3. Soffits less than 5’ from property line shall meet the projection fire rating requirements of Table R302.1.

(Delete section R703.11.4 Flame spread) and substitute with new Section R302.1.2 Flame spread:

R302.1.2 Flame spread. Vinyl siding and vinyl soffit materials shall have a Flame Spread Index of 25 or less as tested in accordance with ASTM E-84.

Motion – David Smith/Second – Mack Nixon/Approved – The request was granted unanimously.

Item B – 3 Request by Brice Hereford, with FastenMaster, to amend the 2012 NC Residential Code, Section R502.2.2. The proposed amendment is as follows:

Request to revise the 2012 NC Residential Code referencing Section **R502.2.2 Decks** to the 2012 IRC Section **R507.2 Deck ledger to band joist**. This would include subsections; **R507.2.1 Placement of lag screws or bolts in deck ledgers and band joists**, **R507.2.2 Alternate deck ledger connections**; **Tables R507.2, R507.2.1; Figures R507.2.1(1) and R507.2.1(2)** would be included as well.

Motion – David Smith/Second – Mack Nixon/Denied as presented. The proponent identified that this amendment will cause a substantial economic impact. An economic analysis is required prior to publication for public hearing.

Item B – 4 Request by Debra Foglesong, with 1st Choice Cabinetry, to amend the 2012 NC Residential Code, Part VII North Carolina State Building Code: Plumbing Code – Abridged for Residential Code, Section 405.3.1. The proposed amendment is as follows:

405.3.1 Water closets, urinals, lavatories and bidets. A water closet, urinal, ~~lavatory~~ or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition, vanity or other obstruction, or closer than 30 inches (762 mm) center-to-center between adjacent fixtures. There shall be at least a 21-inch (533 mm) clearance in front of the water closet, urinal, ~~lavatory~~ or bidet to any wall, fixture or door. Water closet compartments shall not be less than 30 inches (762 mm) wide and 60 inches (152 mm) deep.

~~**Exception:** For one and two family dwellings and townhouses, see the *North Carolina Residential Code*.~~

Motion – Mack Nixon/Second/Approved – The request was granted unanimously.

Item B – 5 Request by Wayne Hamilton, representing the NC Fire Service Code Revision Committee, to amend the 2012 NC Fire Code, Section 503.2.1 and Chapter 47. The proposed amendment is as follows:

Add exception to 503.2.1:

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6 and an unobstructed vertical clearance of 13 feet 6 inches (4115 mm).

Exception: Fire apparatus access roads constructed and/or maintained in accordance with NC DOT Minimum Construction Standards for Subdivision Roads, when approved by the fire code official.

Add reference to Chapter 47:

NC DOT **North Carolina Department of Transportation**

Std 1/2010 Subdivision Roads Minimum Construction Standards 503.2.1

Motion – Kim Reitterer/Second – Lon McSwain/Approved – The request was granted unanimously.

Part C – Notice of Rulemaking Proceedings and Public Hearing

The following Petitions for Rulemaking have been granted by the Council. Notice of Rulemaking proceedings has been made. The Public Hearing was held December 10, 2012 and the Final Adoption meeting may take place on or after March 11, 2013. The written public comment period expires on January 14, 2013.

Item C – 1 Request by Richard D. Sykes, with Ram Jack Foundation Repair, to amend the 2012 NC Building Code.

Add definition for Helical Pile in Chapter 2 DEFINITIONS and add new Section **R404.6 Helical Piles** to the 2012 NC Residential Code.

1. Chapter 2 DEFINITIONS

ADD NEW DEFINITION:

Helical Pile. Manufactured steel deep foundation element consisting of a central shaft and one or more helical bearing plates. A helical pile is installed by rotating it into the ground. Each helical bearing plate is formed into a screw thread with a uniform defined pitch.

2. Chapter 4 SOILS AND FOUNDATIONS:

ADD NEW SECTION:

R404.6 HELICAL PILES

R404.6.1 General. Helical piles shall be analyzed, designed, detailed and installed in accordance with Sections R404.6.1 through R404.6.8

R404.6.2 Geotechnical investigation. Helical piles shall be designed and installed on the basis of a geotechnical investigation as set forth in Section R401.4.1

Exception: For the residential repair of porches, stoops and slab on grade, helical test probes may be used to substitute test borings provided the following:

1. The manufacturer shall have an ICC-ES Evaluation Service Report (ESR) issued in accordance with ICC-ES AC358 that includes a correlation between final installation torque and ultimate capacity as stated in ICC-ES AC358 section 3.13.2, and
2. The shaft diameter, number of helices and diameter of helices shall be the same as the production helical piles.

404.6.3 Analysis; The analysis of helical piles for design shall be in accordance with Sections R404.6.3.1 through R404.6.3.3

R404.6.3.1 Lateral support. Any soil other than fluid soil shall be deemed to afford sufficient lateral support to prevent buckling of deep foundation elements in accordance with accepted engineering practice and the applicable provisions of this code. Where helical piles stand unbraced in air, water or fluid soils, it shall be permitted to consider them laterally supported at a point 5 feet (1524mm) into stiff soil or 10 feet (3048mm) into soft soil unless otherwise approved by the building official on the basis of geotechnical investigation by a registered design professional.

R404.6.3.2 Stability. Helical piles shall be braced to provide lateral stability in all directions. Three or more elements connected to a rigid cap shall be considered braced, provided that the elements are located in radial directions from the centroid of the group not less than 60 degrees (1 rad) apart. A two-element group in a rigid cap shall be considered to be braced along the axis connecting the two elements. Methods used to brace helical piles shall be subject to the approval of the building official. Helical piles supporting walls shall be placed alternately in lines spaced at least 1 foot (305 mm) apart located symmetrically under the center of gravity of the wall load carried, unless effective measures are taken to provide for eccentricity and lateral forces, or the foundation elements are adequately braced to provide for lateral stability.

Exceptions:

1. A single row of helical piles without lateral bracing is permitted for one- and two-family dwellings and lightweight construction not exceeding two stories above grade plane or 35 feet (10 668 mm) in building height, provided the centers of the elements are located within the width of the supported wall.

R404.6.3.3 Group Effects. The analysis shall include group effects on lateral behavior where the center-to-center spacing of helical piles in the direction of lateral force is less than eight times the least horizontal dimension of the element. The analysis shall include group effects on axial behavior where the center-to-center spacing of the helical piles is less than three times the least horizontal dimension of an element.

R404.6.4 Design and detailing. Helical piles shall be designed and manufactured in accordance with accepted engineering practice to resist all stresses induced by installation into the ground and service loads.

R404.6.4.1 Acceptable helical pile foundation systems shall have an ICC-ES Evaluation Service Report (ESR) issued in accordance with ICC-ES AC358

R404.6.4.2 Allowable stresses. The allowable stresses for materials used in helical piles shall not exceed those specified in Table 4R404.6.4

**TABLE R404.6.4.2
ALLOWABLE STRESSES FOR MATERIALS USED FOR HELICAL PILES**

MATERIAL TYPE AND CONDITION	MAXIMUM ALLOWABLE STRESS ^a
1 Structural steel in compression Helical piles	$0.6 F_y \leq 0.5 F_u$
2 Structural steel in tension Helical piles	$0.6 F_y \leq 0.5 F_u$

a. F_y is the specified minimum yield stress of structural steel; F_u is the specified minimum tensile stress of structural steel.

R404.6.5 Determination of allowable loads. The allowable axial load and lateral loads on a helical pile shall be determined by an *approved* formula, load tests or method of analysis.

R404.6.5.1 Allowable axial load. The allowable axial design load, P_a , of helical piles shall be determined as follows:

$$P_a = 0.5 P_u$$

(EQUATION 18-4)

where P_u is the least value of:

1. Sum of the areas of the helical bearing plates times the ultimate bearing capacity of the soil or rock comprising the bearing stratum.
2. Ultimate capacity determined from well-documented correlations with installation torque.
3. Ultimate capacity determined from load tests.
4. Ultimate axial capacity of pile shaft.
5. Ultimate capacity of pile shaft couplings.
6. Sum of the ultimate axial capacity of helical bearing plates affixed to pile.

R404.6.5.2 Allowable lateral load. Where required by the design, the lateral load capacity of a single helical pile or a group thereof shall be determined by an approved method of analysis or by lateral load tests to at least twice the proposed design working load. The resulting allowable load shall not be more than one-half of the load that produces a gross lateral movement of 1 inch (25 mm) at the lower of the top of the foundation element and the ground surface, unless it can be shown that the predicted lateral movement shall cause neither harmful distortion of, nor instability in, the structure, nor cause any element to be loaded beyond its capacity.

R404.6.6 Dimensions of helical piles. Dimensions of the central shaft and the number, size and thickness of the helical bearing plates shall be sufficient to support the design loads.

R404.6.7 Pile Caps. Pile caps shall be of reinforced concrete, and shall include all elements to which vertical helical piles are connected, including grade beams and mats. The soil immediately below the pile cap shall not be considered as carrying any vertical load. The tops of the vertical helical piles shall be embedded not less than 3 inches (76 mm) into pile caps and the caps shall extend at least 4 inches (102 mm) beyond the edges of the elements. The tops of the elements shall be cut or chipped back to sound material before capping.

R404.6.8 Installation. Helical piles shall be installed to the specified embedment depth and torsional resistance criteria as determined by a registered design professional. The torque applied during installation shall not exceed the maximum allowable installation torque of the helical pile.

Darin Willis, with Ram Jack Foundation Repair, was available for questions.

Item C – 2 Request by Daniel J. Walker, PE, with the Metal Building Manufacturers Association, to amend the 2012 NC Energy Code, Tables 502.1.2, 502.2(1), and 502.2(2), and Appendix 2.2. The proposed amendment is as follows:

**TABLE 502.1.2
BUILDING ENVELOPE REQUIREMENTS OPAQUE ELEMENT, MAXIMUM U-FACTORS**

CLIMATE ZONE	3		4		5	
	All Other	Group R	All Other	Group R	All Other	Group R
Roofs						
Metal Buildings (with R-5 thermal blocks) ^a	U-0.041	U-0.041	U-0.035	U-0.035	U-0.035	U-0.035

(Portions of table not shown remain unchanged.)

**TABLE 502.2(1)
BUILDING ENVELOPE REQUIREMENTS – OPAQUE ASSEMBLIES**

CLIMATE ZONE	3		4		5	
	All Other	Group R	All Other	Group R	All Other	Group R
Roofs						
Metal Buildings (with R-5 thermal blocks) ^{a, b}	R-10 + R-19 FC	R-10 + R-19 FC	R-19 + R-11 Ls	R-19 + R-11 Ls	R-19 + R-11 Ls	R-19 + R-11 Ls

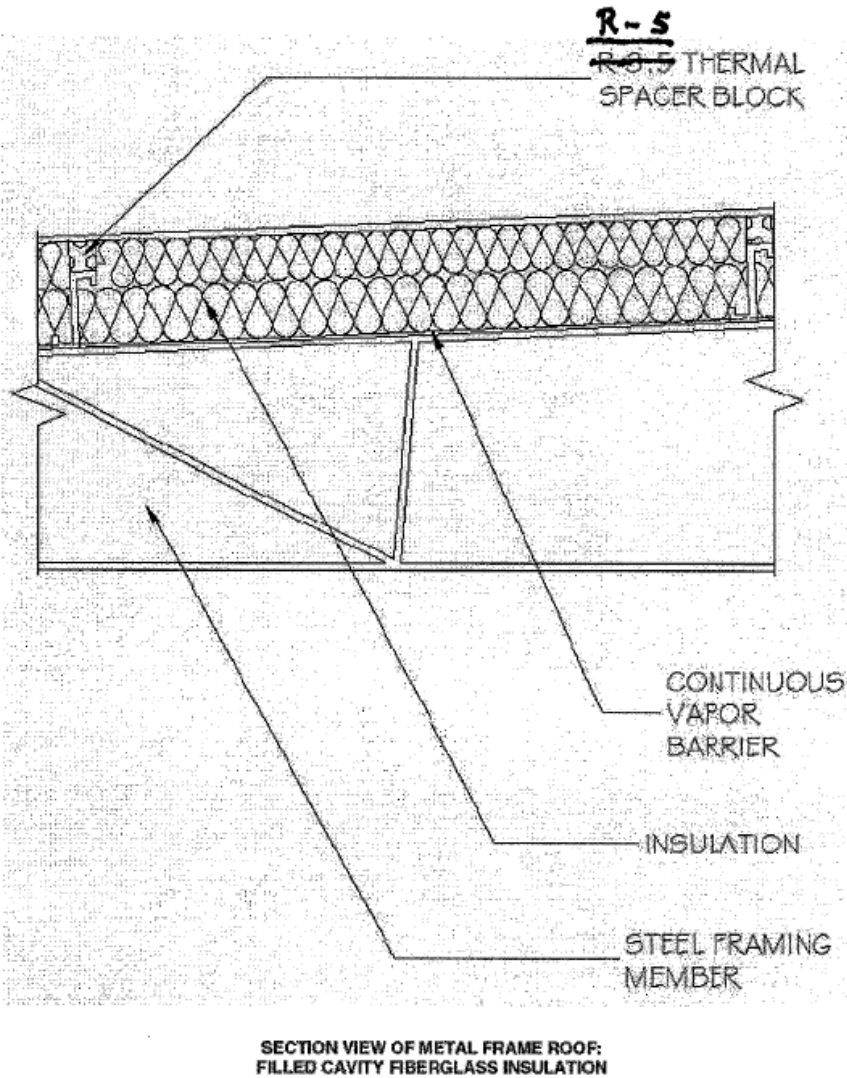
(Portions of table not shown remain unchanged.)

**TABLE 502.2(2)
BUILDING ENVELOPE REQUIREMENTS – OPAQUE ASSEMBLIES**

ROOFS	DESCRIPTION
R- 11 10 + R-19 FC	Filled cavity fiberglass insulation. A continuous vapor barrier is installed below the purlins and uninterrupted by framing members. Both layers of uncompressed, unfaced fiberglass insulation rest on top of the vapor barrier and are installed parallel, between the purlins. A minimum R- 3 5 thermal spacer block is placed above the purlin/batt, and the roof deck is secured to the purlins. Drawings of typical details are shown in Appendix 2.2.

(Portions of table not shown remain unchanged.)

Revise Appendix 2.2 as follows:



There were no comments on this item.

Item C – 3 Request by the NC Energy Efficiency Alliance, Appalachian State Department of Technology, to amend the 2012 NC Energy Conservation Code and the 2012 NC Residential Code. The proposed amendment is as follows:

The proposed amendment is posted at the following link:

[http://www.ncdoi.com/OSFM/Engineering_and_Codes/Documents/BCC_Minutes/2012%2009%2010-September%2010,%202012%20\(Item%20B-3,%20NCECC%20Chapter%204,%20NCRC%20Chapter%2011,%20Duct%20Leakage_.pdf](http://www.ncdoi.com/OSFM/Engineering_and_Codes/Documents/BCC_Minutes/2012%2009%2010-September%2010,%202012%20(Item%20B-3,%20NCECC%20Chapter%204,%20NCRC%20Chapter%2011,%20Duct%20Leakage_.pdf)

There were no comments on this item.

Item C – 4 Request by Robert Privott, NC Home Builders Association, to amend the 2012 NC Residential Code, Table R302.1. The proposed amendment is as follows:

Table R302.1 – Exterior Walls

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	(Fire-resistance rated)	1 hour-tested in accordance with ASTM E 119 or UL 263 with exposure to both sides	≤ 3 5 Feet
	(Not fire-resistance rated)	0-Hours	≥ 3 5 Feet
Projections	(Fire-resistance rated)	1-Hour on the underside	≤ 3 4 Feet
	(Not fire-resistance rated)	0-Hours	≥ 3 5 Feet
Openings	Not Allowed	N/A	< 3 Feet
	25% Maximum of Wall Area	0-Hours	3 Feet
	Unlimited	0-Hours	≥ 3 5 Feet
Penetrations	All	Comply with Section R317.3	≤ 3 < 5 Feet
		None Required	≥ 3 5 Feet

For SI: 1 foot=304.8 mm.
N/A = Not Applicable

Marilyn Bunce, with Onslow County, recommends the Council adopt this code change.

Gary Hill, President of NC Home Builders Association, recommends the Council adopt this code change.

Ron Jackson, Builder, recommends the Council adopt this code change.

Wayne Hamilton, representing the NC Fire Service Code Revision Committee, stated he was somewhat in support of this item, if residential sprinklers and hydrant requirements are reconsidered also.

Rob Kinniburgh, City of Charlotte, is against this code change.

Robby Carlson, City of Raleigh Inspections, is against this code change.

Matt Parker, with Pulte Homes, recommends the Council adopt this code change.

Barry Gupton, NCDOT, noted that there were written public comments that recommend an exception for 3-foot separation for (1) additions to existing structures and (2) subdivisions that were recorded prior to March 1, 2012.

Item C – 5 Request by Robert Privott, NC Home Builders Association, to amend the 2012 NC Residential Code, Section R408.2. The proposed amendment is as follows:

R408.2 Ground vapor retarder. When required by Section R408.1.1 Exception, a A minimum 6-mil (0 15 mm) polyethylene vapor retarder or equivalent shall be installed to nominally cover all exposed earth in the crawl space with joints lapped not less than 12 inches (305 mm). Where there is no evidence that the ground water table can rise to within 6 inches (152 mm) of the floor of the crawl space it is acceptable to puncture the ground vapor retarder at low spots to prevent water puddles from forming on top of the vapor retarder due to condensation. ~~The floor of the crawl space shall be graded so that it drains to one or more low spots.~~ Install a drain to daylight or sump pump at each low spot. Crawl space drains shall be kept separate from roof gutter drain systems and foundation perimeter drains.

Robert Privott, with NC Home Builders Association, recommends the Council adopt this code change.

[Note: The ~~strikethrough~~ sentence is not in the current code.]

Part D – Final Adoption

The following Petitions for Rulemaking have been granted by the Council. Notice of Rulemaking proceedings and Public Hearing has been made. The Public Hearings were held September 10, 2012. The Final Adoption meeting took place on December 10, 2012. The Council will give no further consideration to Petitions that are disapproved. Petitions that are approved will proceed through the Rulemaking process.

Item D – 1 Request by Myron Cashwell, Sampson County, to amend the 2012 NC Building Code, Section 903.2.8. The proposed amendment is as follows:

Add Exception to 903.2.8 of the North Carolina Building Code, Volume I

Any Group R Fire area meeting all of the following conditions:

1. Less than 1200 square feet area
2. Single story at grade construction
3. Two remote exits
4. Minimum III B Construction

Motion – Alan Perdue/Second – Lon McSwain/Denied

Item D – 2 Request by Robert Hall, Loganville, Georgia, to amend the 2012 NC Mechanical Code, Section 605.5. The proposed amendment is as follows:

Add 605.5 International Plumbing Code Reference in Chapter 15 of IMC

Motion – Al Bass/Second – Ralph Euchner/Denied

Item D – 3 Request by Robert Hall, Loganville, Georgia, to amend the 2012 NC Mechanical Code, Section 1202.5. The proposed amendment is as follows:

Table 1202.5 Hydronic Pipe Fittings

Material	Standard
Copper & Copper Alloy	ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.23; ASME B16.26; ASME B16.29; <u>ASME B16.51</u>

Chapter 15 REFERENCED STANDARDS

ASME

B16.51 – 2011 Copper and Copper Alloy Press-Connect Pressure Fittings Table 1205.5

Motion – Mack Nixon/Second – Ralph Euchner/Granted with modifications.

Item D – 4 Request by Robert Hall, Loganville, Georgia, to amend the 2012 NC Mechanical Code, Section 1203.8. The proposed amendment is as follows:

1203.8 Copper and copper alloy tubing. Joints between copper or copper-alloy tubing or fittings shall be brazed, mechanical, press connect or soldered joints conforming to Section 1203.3 or flared joints conforming to Section 1203

Motion – Al Bass/Second – Ralph Euchner/Granted unanimously.

Item D – 5 Request by Robert Hall, Loganville, Georgia, to amend the 2012 NC Mechanical Code, Section 1203.3.9. The proposed amendment is as follows:

1203.3.9 Press connect joints. Press connect joints shall be installed in accordance with the manufacturers instruction. Press-connect joints shall conform to one of the standards listed in Table 1202.5.

Motion – Al Bass/Second – Ralph Euchner/Granted with modifications.

Item D – 6 Request by Robert Hall, Loganville, Georgia, to amend the 2012 NC Plumbing Code, Section 605.5. The proposed amendment is as follows:

Table 605.5 Pipe Fittings

Materials	Standards
Copper and Copper Alloys	ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.23; ASME B16.26; ASME B16.29; <u>ASME B16.51</u>

Chapter 13 REFERENCED STANDARDS

ASME

B16.51 – 2011 Copper and Copper Alloy Press-Connect Pressure Fittings Table 1205.5

Motion – Al Bass/Second – Ralph Euchner/Granted with modifications.

Item D – 7 Request by Robert Hall, Loganville, Georgia, to amend the 2012 NC Plumbing Code, Section 605.15. The proposed amendment is as follows:

605.15 Copper Tubing

605.15.5 Press Connect Joints. Press connect joints shall be installed in accordance with the manufacturer’s instructions. Press-connect joints shall conform to one of the standards listed in Table 605.5.

Motion – Al Bass/Second – Ralph Euchner/Granted with modifications.

Item D – 8 Request by Scott McKinnon, with Comfort Solutions Incorporated, to amend the 2012 NC Energy Conservation Code, Section 403.1.2. The proposed amendment is as follows:

403.1.2 Heat pump supplementary heat (Mandatory Requirements). Heat pumps having supplementary electric-resistance heat shall have controls that, except during defrost, prevent supplemental heat operation when the heat pump compressor can meet the heating load. In lieu of a heat strip outdoor temperature lockout, the following time and temperature electric-resistance control may be used. After six minutes of compressor run time in heat mode, supplemental electric heat shall energize only if the leaving air temperature from the indoor coil is below 90°F. If the indoor coil leaving air temperature exceeds 100°F, supplemental heat will automatically de-energize, but allow the compressor to continue to operate until the call is satisfied. No thermostat shall initiate supplemental electric heat at any time. Thermostat controlled emergency heat shall not be limited by outdoor temperature. Electric-resistance supplemental heat during defrost shall operate normally without limitation.

Per direction from NCBCC at September meeting, this item is reformatted as an exception:

403.1.2 Heat pump supplementary heat(Mandatory Requirements). Heat pumps having supplementary electric-resistance heat shall have controls that, except during defrost, prevent supplemental heat operation when the heat pump compressor can meet the heating load.

A heat strip outdoor temperature lockout shall be provided to prevent supplemental heat operation in response to the thermostat being changed to a warmer setting. The lockout shall be set no lower than 35 degrees F and no higher than 40 degrees F.

Exception: In lieu of a heat strip outdoor temperature lockout, the following time and temperature electric-resistance control may be used. After six minutes of compressor run time in heat mode, supplemental electric heat shall energize only if the leaving air temperature from the indoor coil is below 90 degrees F. If the indoor coil leaving air temperature exceeds 100 degrees F, supplemental heat will shall automatically de-energize, but allow the compressor to continue to operate until the call is satisfied. No thermostat shall initiate supplemental electric heat at any time. Thermostat controlled emergency heat shall not be limited by outdoor temperature. Electric resistance supplemental heat during defrost shall operate normally without limitation.

Also, a companion change is necessary to provide consistency in correlation with the 2012 NC Residential Code, Chapter 11, section N1103.1.2. This section is added as requested by the NCBCC to provide proper correlation with the 2012 NCECC section 403.1.2 and is as follows:

N1103.1.2 Heat pump supplementary heat(Mandatory Requirements). Heat pumps having supplementary electric-resistance heat shall have controls that, except during defrost, prevent supplemental heat operation when the heat pump compressor can meet the heating load.

A heat strip outdoor temperature lockout shall be provided to prevent supplemental heat operation in response to the thermostat being changed to a warmer setting. The lockout shall be set no lower than 35 degrees F and no higher than 40 degrees F.

Exception: In lieu of a heat strip outdoor temperature lockout, the following time and temperature electric-resistance control may be used. After six minutes of compressor run time in heat mode, supplemental electric heat shall energize only if the leaving air temperature from the indoor coil is below 90 degrees F. If the indoor coil leaving air temperature exceeds 100 degrees F, supplemental heat will shall automatically de-energize, but allow the compressor to continue to operate until the call is satisfied. No thermostat shall initiate supplemental electric heat at any time. Thermostat controlled emergency heat shall not be limited by outdoor temperature. Electric resistance supplemental heat during defrost shall operate normally without limitation.

Motion – Ralph Euchner/Second – Al Bass/Granted unanimously.

Item D – 9 Request by Joe Mattingly, Air-Conditioning, Heating, and Refrigeration Institute, to amend the 2012 NC Energy Conservation Code, 501.1 Scope. The proposed amendment is as follows:

501.1 Scope. The requirements contained in this chapter are applicable to commercial buildings, or portions of commercial buildings. These commercial buildings shall either:

1. Meet the requirements contained in this chapter, or
2. ~~Comply with the mandatory provisions of 2007 ASHRAE/IESNA Standard 90.1, Energy Standard for Buildings Except for Low Rise Residential Buildings and exceed the minimum level of energy efficiency it prescribes by 20% following the procedure in ASHRAE/IESNA Standard 90.1, Appendix G.~~ Meet the requirements of ASHRAE/IESNA Standard 90.1-2010.

ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. 1971 Tullie Circle, NE Atlanta, GA 30329-2305	
Standard reference number	Title	Referenced in code section number
119—88 (RA 2004)	Air Leakage Performance for Detached Single-family Residential Buildings	Table 405.5.2(1)
140—2007	Standard Method of Test for the Evaluation of Building Energy Analysis Computer Programs	506.6.1
146—1998	Testing and Rating Pool Heaters	Table 504.2
ANSI/ASHRAE/ACCA Standard 183—2007	Peak Cooling and Heating Load Calculations in Buildings Except Low-rise Residential Buildings	503.2.1
13256-1 (2005)	Water-source Heat Pumps—Testing and Rating for Performance— Part 1: Water-to-air and Brine-to-air Heat Pumps (ANSI/ASHRAE/IESNA 90.1-2004)	Table 503.2.3(2)
90.1—2007 <u>2010</u>	Energy Standard for Buildings Except Low-rise Residential Buildings (ANSI/ASHRAE/IESNA 90.1-2007 <u>2010</u>)	501.1, 501.2, 502.1.1, Table 502.2(2)
ASHRAE—2005	ASHRAE Handbook of Fundamentals	402.1.4, Table 405.5.2(1)
ASHRAE—2004	ASHRAE HVAC Systems and Equipment Handbook-2004	503.2.1

Motion – Ralph Euchner/Second – Al Bass/Granted with modifications.

Item D-10 Request by Alan Meeks, with The Marwin Company, Inc., to amend the 2012 NC Residential Code, Section R302.5.1. The proposed amendment is as follows:

R302.5.1 Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1³/₈ inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 1³/₈ inches (35 mm) thick, or 20-minute fire-rated doors.

Exception: A disappearing/pull-down stairway to uninhabited attic space with minimum 3/8-inch (9.53 mm) (nominal) fire retardant-treated structural panel is deemed to meet Table R302.6 Dwelling/Garage Separation of not less than 1/2-inch (12.7 mm) gypsum board or equivalent applied to garage side.

Motion – David Smith/Second – Mack Nixon/Granted unanimously.

Item D-11 Request by David Smith, NC BCC, to amend the 2012 NC Residential Code, Section R313.1. The proposed amendment is as follows:

R313.1 Townhouse automatic fire sprinkler systems. An automatic residential fire sprinkler system shall be installed in *townhouses*.

Exceptions:

1. Townhouses constructed with a common 2-hour fire-resistance-rated wall assembly or two 1-hour fire-resistance-rated wall assemblies that comply with Table R302.1 tested in accordance with ASTM E 119 or UL 263 provided such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall(s) shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations in the separation walls shall be installed in accordance with the NC Electrical Code Chapters 34 through 43. Penetrations for electrical outlet boxes shall be in accordance with Section R302.4.
2. An automatic residential fire sprinkler system shall not be required when additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed.

Motion – David Smith/Second – Lon McSwain/Granted with modifications.

Item D-12 Request by David Smith, NC BCC, to amend the 2012 NC Residential Code, Sections R322.2.1 and R322.3.2. The proposed amendment is as follows:

2012 NC Residential Code – Proposed Revisions to R322 Regarding Flood Elevation Design Requirements

R322.2.1 Elevation requirements.

1. Buildings and structures shall have the lowest floors elevated to or above the base flood elevation ~~plus one foot (305 mm)~~, or the design flood elevation, whichever is higher.

2. In areas of shallow flooding (AO Zones), buildings and structures shall have the lowest floor (including basement) elevated at least as high above the highest adjacent grade as the depth number specified in feet (mm) on the FIRM ~~plus one foot (305 mm)~~, or at least 3 feet (915 mm) if a depth number is not specified.
3. Basement floors that are below grade on all sides shall be elevated to or above the base flood elevation ~~plus one foot (305 mm)~~, or the design flood elevation, whichever is higher.

Exception: Enclosed areas below the design flood elevation, including basements whose floors are not below grade on all sides, shall meet the requirements of Section R322.2.2.

R322.3.2 Elevation requirements.

1. All buildings and structures erected within coastal high hazard areas shall be elevated so that the lowest portion of all structural members supporting the lowest floor, with the exception of mat or raft foundations, piling, pile caps, columns, grade beams and bracing, is:
 - 1.1. Located at or above the design flood elevation, if the lowest horizontal structural member is oriented parallel to the direction of wave approach, where parallel shall mean less than or equal to 20 degrees (0.35 rad) from the direction of approach, or
 - 1.2. Located at the base flood elevation ~~plus 1 foot (305 mm)~~, or the design flood elevation, whichever is higher, if the lowest horizontal structural member is oriented perpendicular to the direction of wave approach, where perpendicular shall mean greater than 20 degrees (0.35 rad) from the direction of approach.
2. Basement floors that are below grade on all sides are prohibited.
3. The use of fill for structural support is prohibited
4. Minor grading, and the placement of minor quantities of fill, shall be permitted for landscaping and for drainage purposes under and around buildings and for support of parking slabs, pool decks, patios and walkways.

Exception: Walls and partitions enclosing areas below the design flood elevation shall meet the requirements of Sections R322.3.4 and R322.3.5.

Motion to delay item until March 2013 meeting – David Smith/Second – Steve Knight/Granted unanimously.

Item D-13 Request by David Smith, NC BCC, to amend the 2012 NC Residential Code, Table R403.1. The proposed amendment is as follows:

2012 NC Residential Code (NCRC) – Proposed Revisions to Table R403.1 Regarding Minimum Allowable Footing Widths

**TABLE R403.1
MINIMUM WIDTH OF CONCRETE OR
MASONRY FOOTINGS (inches)***

	LOAD-BEARING VALUE OF SOIL (psf)			
	1,500	2,000	3,000	4,000
Conventional light-frame construction				
1-story	12 16 ^b	12 16 ^b	12	12
2-story	15 16 ^b	12 16 ^b	12	12
3-story	23	17	12	12
4-inch brick veneer over light frame or 8-inch hollow concrete masonry				
1-story	12 16 ^b	12 16 ^b	12	12
2-story	21	16	12	12
3-story	32	24	16	12
8-inch solid or fully grouted masonry				
1-story	16	12 16 ^b	12	12
2-story	29	21	14	12
3-story	42	32	21	16

For SI: 1-inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa.

- a. Where minimum footing width is 12 inches, use of a single wythe of solid or fully grouted 12-inch nominal concrete masonry units is permitted.
- b. ~~A minimum footing width of 12" is acceptable for monolithic slab foundations.~~

Motion to delay item until March 2013 meeting – David Smith/Second – Steve Knight/Granted unanimously.

Item D-14 Request by David Smith, NC BCC, to amend the 2012 NC Residential Code, Section R403.1.4. The proposed amendment is as follows:

R403.1.4 Minimum depth. All exterior footings and foundation systems shall extend below the frost line specified in Table R301.2(1). In no case shall the bottom of the exterior footings be less than 12 inches below the ~~undisturbed ground surface or engineered fill~~ finished grade.

Exception: Frost protected footings constructed in accordance with Section R403.3 and footings and foundations erected on solid rock shall not be required to extend below the frost line.

Motion – David Smith/Second – Cindy Browning/Granted unanimously.

Item D-15 Request by David Smith, NC BCC, to amend the 2012 NC Residential Code, Table R502.3.3(2) Footnotes. The proposed amendment is as follows:

Table R502.3.3(2) Footnotes:

- a. Spans are based on No. 2 Grade lumber of Douglas fir-larch, hem-fir, southern pine, and spruce-pine-fir for repetitive (3 or more) members.
- b. Ratio of backspan to cantilever span shall be at least 2:1.
- c. Connections capable of resisting the indicated uplift force shall be provided at the backspan support.
- d. Uplift force is for a backspan to cantilever span ratio of 2:1. Tabulated uplift values are permitted to be reduced by multiplying by a factor equal to 2 divided by the actual backspan ratio provided (2/backspan ratio).
- e. A full-depth rim joist shall be provided at the ~~unsupported end of the cantilever joists~~ cantilever end of the joists. Solid blocking shall be provided at the ~~supported end~~ cantilever support.
- f. Linear interpolation shall be permitted for ground snow loads other than shown.

Motion – David Smith/Second – Cindy Browning/Granted unanimously.

Item D-16 Request by David Smith, NC BCC, to amend the 2012 NC Residential Code, Section R506.2.3. The proposed amendment is as follows:

R506.2.3 Vapor retarder. A 6 mil (0.006 inch; 152 µm) polyethylene or *approved* vapor retarder with joints lapped not less than 6 inches (152 mm) shall be placed between the concrete floor slab and the base course or the prepared subgrade where no base course exists.

Exception: The vapor retarder may be omitted:

1. From detached garages, utility buildings and other unheated *accessory structures*.
2. For unheated storage rooms having an area of less than 70 square feet (6.5 m²) and carports.
3. From driveways, walks, patios and other exterior flatwork ~~not likely to be enclosed and heated at a later date~~.
4. Where *approved* by the *building official*, based on local site conditions.
5. From attached garages where floor space at parking level is unheated.

Motion – David Smith/Second – Mack Nixon/Granted unanimously.

Item D-17 Request by David Smith, NC BCC, to amend the 2012 NC Residential Code, Table R602.10.4.2 Footnotes. The proposed amendment is as follows:

Table R602.10.4.2 Footnotes:

- a. Interpolation shall be permitted.
- b. ~~Braced wall panels using wood structural panel (WSP) sheathing on both sides may be used to reduce the panel lengths shown by 50 percent.~~

Motion – David Smith/Second – Ralph Euchner/Granted unanimously.

Item D-18 Request by David Smith, NC BCC, to amend the 2012 NC Residential Code, Section R703.7.6. The proposed amendment is as follows:

R703.7.6 Weepholes. Weepholes shall be provided in the outside wythe of masonry walls at a maximum spacing of ~~33~~ 48 inches (~~838~~ 1219 mm) on center. Weepholes shall not be less than 3/16 inches (5 mm) in diameter. Weepholes shall be located immediately above the flashing.

Motion – David Smith/Second – Steve Knight/Granted unanimously.

Item D-19 Request by David Smith, NC BCC, to amend the 2012 NC Residential Code, Section R905.2.6. The proposed amendment is as follows:

R905.2.6 Attachment. Asphalt shingles shall have the minimum number of fasteners required by the manufacturer, but not less than four fasteners per strip shingle or two fasteners per individual shingle. Where the roof slope exceeds 21 units vertical in 12 units horizontal (21:12, 175 percent slope), shingles shall be installed as required by the manufacturer.

Exception: Asphalt strip shingles shall have a minimum of six fasteners per shingle where the roof is in one of the following categories:

1. The basic wind speed in accordance with Figure R301.2(4) is 110 miles per hour (177 km/hr) or greater and the eave is 20 feet (6096 mm) or higher above grade.
2. The basic wind speed in accordance with Figure R301.2(4) is 120 miles per hour (193 km/hr) or greater.
3. Special mountain regions in accordance with Figure R301.2(4) that meet exceptions 1 or 2 above.

Motion – David Smith/Second – Steve Knight/Granted with modification.

Item D-20 Request by David Smith, NC Building Code Council, to amend the 2012 NC Residential Code, Section R602.10. The proposed amendment is as follows:

Replace the 2012 NC Residential Code Sections R602.10 through R602.12 with the attached “Revised Wall Bracing Provisions of the 2012 North Carolina Residential Code”.

R602.10-Wall Bracing Document is posted at the following link:

http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=BCC_-_Minutes&user=Building_Code_Council&sub=BCC_Meeting

Motion – David Smith/Second – Steve Knight/Granted unanimously with changes.

Item D-21 Request by Robert Privott, NC Home Builders Association, to amend the 2011 NC Electrical Code, Section 210.8 (A)(7). The proposed amendment is as follows:

Section 210.8 (A)(7)

(7) Laundry, utility, and wet bar sinks – where the receptacles are installed within 1.8m (6 ft) of the outside edge of the sink

Robert Privott, with NC Home Builders Association, asked to withdraw this code change. The Electrical Committee will give no further consideration to this item.

Item D-22 Request by Robert Privott, NC Home Builders Association, to amend the 2011 NC Electrical Code, Section 210.12(B). The proposed amendment is as follows:

Section 210.12(B)

~~(B) Branch Circuit Extensions or Modifications—Dwelling Units. In any of the areas specified in 210.12 (A), where branch circuit wiring is modified, replaced, or extended, the branch circuit shall be protected by one of the following:~~

- ~~(1) A listed combination type AFCI located at the origin of the branch circuit~~
- ~~(2) A listed outlet branch circuit type AFCI located at the first receptacle outlet of the existing branch circuit~~

Motion/Second/Passed – Denied unanimously.

Item D-23 Request by Robert Privott, NC Home Builders Association, to amend the 2011 NC Electrical Code, Section 210.52(I). The proposed amendment is as follows:

Section 210.52(I) Required Outlets

- (I) Foyers.** Foyers that are not part of a hallway in accordance with 210.52(H) and that have an area that is greater than 5.6m² (60 ft²) shall have a receptacle(s) located in each wall space 900 mm (3 ft) or more in width in a straight dimension and ~~unbroken by corners, doorways, floor to ceiling windows and similar openings.~~

Motion/Second/Adopted as modified – This motion was passed unanimously.

Item D-24 Request by Robert Privott, NC Home Builders Association, to amend the 2011 NC Electrical Code, Section 404.2 (C). The proposed amendment is as follows:

Section 404.2 (C) Switches Controlling Lighting Loads

(C) Switches Controlling Lighting Loads. For switches controlling lighting loads supplied by a grounded general purpose branch circuit, the grounded circuit conductor for the controlled lighting circuit shall be provided at the switch location.

Exception: the grounded circuit conductor shall be permitted to be omitted from the switch enclosure where either of the following conditions in (1), ~~(2)~~ or (3) apply:

1. Conductors for switches controlling lighting loads enter the box to a raceway. The raceway shall have sufficient cross sectional area to accommodate the extension of the grounded circuit conductor of the lighting circuit to the switch location whether or not the conductors in the raceway are required to be increased in size to comply with 310.15(B)(2)(a).

2. Cable assemblies for switches controlling lighting loads enter the box through framing cavity that is open at the top of bottom on the same floor level, or through a wall, floor, or ceiling that is unfinished on one side.

3. Residential one- and two-family dwellings.

Motion/Second/Adopted as modified – This motion was passed unanimously.

Item D-25 Request by Robert Privott, NC Home Builders Association, to amend the 2011 NC Electrical Code, Section 406.4 (D)(4). The proposed amendment is as follows:

Section 406.4 (D)(4) Arc-Fault Circuit-Interrupter Protection

~~**406.4(D)(4) Arc-Fault Circuit-Interrupter Protection.** Where a receptacle outlet is supplied by a branch circuit requires arc fault circuit interrupter protection as specified elsewhere in this code, a replacement receptacle at this outlet shall be one of the following:~~

- ~~1. A listed outlet branch circuit type arc fault circuit interrupter receptacle.~~
- ~~2. A receptacle protected by a listed outlet branch circuit type arc fault circuit interrupter type receptacle.~~
- ~~3. A receptacle protected by a listed combination type arc fault circuit interrupter type circuit breaker.~~

~~This requirement becomes effective January 1, 2014.~~

Motion/Second/Passed – Denied unanimously.

Part E – Reports

Chairman’s Report

-Chairman Dan Tingen discussed that it was time for him to appoint the Ad-hoc Committees for the next code cycle meetings.

-Mr. Tingen suggested the discussion of whether or not to skip the next code edition cycle. The Council decided that they will discuss the issue further at the March 2013 Council meeting.

Ad Hoc Committee Reports

-David Smith reported on the ‘Effect of reflective sunlight on vinyl siding’. The report is attached in the following link.

[http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=BCC -
_Minutes&user=Building_Code_Council&sub=BCC_Meeting](http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=BCC_-_Minutes&user=Building_Code_Council&sub=BCC_Meeting)

Standing Committee Reports

No Report

Staff Reports

-Chris Noles introduced Andy Miller, Melanie Butler, and Dan Dittman as the newest staff members of the Engineering Department. He also announced that Bill Moeller replaced Henry Webster.

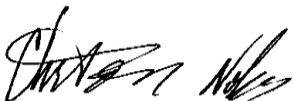
Public Comments

There were none.

Part F – Appeals

Item F – 2 Doghouse Appeal

Sincerely,



Christian Noles, P.E.
Secretary, NC Building Code Council