ERB Sub-Committee First
Meeting
February 23, 2021

Energy- Residential-Building
Sub-Committee First Meeting
February 23, 2021
Minutes

MEETING BEGINS - 10:00 AMWELCOME

- Joel Rodriguez, Chairman welcomed everyone, and introduced sub-committee members and DCA staff.
- Ted Miltiades, Director shared the goal of having Sub-committee present in the DCA Boardroom for the April ERB Sub-Committee meeting.
- Ted turned the meeting over to Chairman Joel Rodriguez.
- DISCUSSION OF SCOPE OF WORK
    - Joel Rodriguez explained the scope of the work to the Sub-Committee which included the meeting schedule and review of the proposed amendments. A final task force report with recommendations will be made at the June SCAC meeting.

PRESENTATIONS (See ERB Amendment Chart & Attached Presentations)

- David Goulding, spoke in favor of item #1
- Anthony Drake and Tim Coombs spoke in favor of items #2 & #3.
- Robert Glass gave a presentation (see attached presentations) on items #4-9.
- David Southerland, Deidre Leclair and Nicole Seekely, spoke in favor of item # 10
- The Georgia Legislature passed HB 777 and charged the Georgia Department of Community Affairs with the review of the 2021 International Building Code tall mass timber provisions for construction types IV-A, IV-B, and IV-C. In response to this charge, Paul Coats provided the ERB Sub-committee with an overview on the history, process, definitions, and requirements of Tall Mass Timber construction as stated in the 2021 International Building Code. (See Attached Presentation.)

LUNCH BREAK – 11:45 AM until 12:15 PM

PRESENTATIONS (continued)

- Jimmy Cotty and Vance Robinson spoke in favor of items #12-14, while withdrawing items #15-16.
- Chris Gorecki provided a presentation (see attached presentations) in favor of item #17
- Stephen Wieroniey and Paul Duffy provided a presentation (see attached presentations) in favor of items #18-19.

CONCLUSION OF MEETING

- No other Old or New Business.
- The next meeting will be held on Wednesday, April 14, 2021 at 10:00 in DCA Room 302.

ADJOURN – 1:50 PM

ERB Sub-Committee First
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February 23, 2021

MEETING ATTENDEES

SUB-COMMITTEE MEMBERS: Joel Rodriguez, Chairman; Tim Williams, Vice-Chairman; James Martin, Stan Everett, John Hutton, Ryan Taylor, and Dwayne Garriss.

DCA STAFF: Ted Miltiades, Jimmy Reynolds, Christian Poulos and Donna Brown

PRESENTERS: David Goulding, Ensign Building Solutions; Anthon Drake, City of Valdosta; Tim Coombs, Coombs Heating and Air; Robert S. Glass, Goodman Manufacturing; David Southerland, AIA Georgia; Diedre Leclair, AIA/Stevens & Wilkerson Architects; Nicole Seekely, AIA Georgia; Paul Coats, American Wood Council; Jimmy Cotty, Georgia Ready-Mixed Concrete Association; Vance Robinson, SCAC/GCP Applied Technologies; Christopher Gorecki, Rollins, Inc; Stephen Wieroniey, American Chemistry Council; Paul Duffy, Paul Duffy & Associates

GUESTS: Eric L. Arnold, Southern Co; Julius A. Ballanco, J.B. Engineering and Code Consulting, P.C.; Mike Barcik, Southface; Rick Bell, Arrow Exterminators; Phil Brown, Compton Sales; Chanel Charbonneau, Johns Manville; Jim Cika, ICC; Jay Crandell, ARES Consulting; Robby Dawson, NFPA; Anthony J. Donald, Southern Company; Greg Holley, GSPCC; Matt Kantner, Equilibrium Consulting; Andrew Klein, AS Klein Engineering; Christy Kuriatnyk, Georgia Department of Public Health; Eric Lacey, Responsible Energy Code Alliance; Derrick Lastinger, Georgia Structural Pest Control Commission; Joel Martell, North American Insulation Manufacturers Association; James L. McKenzie, Southern Company; Lauren Miller ; Randy Nicklas, Icynene; Elaine Powers, State Codes Advisory Committee (SCAC), PMG Sub-Committee; Jonathan Sargent, Omega Flex; Bettie Sleeth, Home Builders Association of Georgia; Stephen Spitzer, Chemours; Dominique Taudin, Carrier.

ATTACHMENTS:

- Meeting schedule
- Proposed Amendment Report

Proposed Amendments to the 2020 GA State Minimum Standard One- and Two-Family Dwelling Code

- Thank you, Mr. Chair. My name is Robert Glass. I am presenting these code change proposals on behalf of Goodman Manufacturing Company, Daikin U.S. Corp., Daikin Applied Americas, Carrier Corp., The Chemours Company, JB Engineering and Code Consulting, P.C. and A.S. Klein Engineering, PLLC as noted in our submission letter to Mr. Miltiades. Several of these technical representatives are participating on this virtual meeting today.

- The normal code cycle for Georgia will not be addressed again until 2025 (using the 2024 ICC codes). Before that date, products using Low GWP, Group A2L refrigerants will need to be sold to meet market requirements. As such, these proposals need to be addressed on an off-cycle basis to update the code to make allowance for Low GWP, Group A2L refrigerant products which will be used in the future.

- These proposed amendments to the GA Minimum Standard One- and Two-Family Dwelling Code include: (1) adding missing references to UL/CSA 60335-2-40 as equivalent to UL 1995 (Item No. IRC-2022-4 & IRC-2022-8), (2) update the standards referenced in Chapter 44 (Item No. IRC-2022-9) , (3) update the standard titles as needed in Chapter 44 (Item No. IRC-2022-9) and (4) delete reference to ANCE for the UL/CSA 60335-2-40 standard as ANCE withdrew as a sponsor of the UL/CSA 60335-2-40 standard after the 2nd edition (Item Nos. IRC-2022-5, IRC-2022-6, IRC-2022-7 and IRC-2022-9).

- UL will be withdrawing UL 1995 as a national standard effective January 1, 2024. Manufacturers will have to use the new standard, UL/CSA 60335-2-40. The third edition incorporates many of the requirements in UL 1995, as well as new requirements including: UV-C germicidal lamp systems, CO_2 systems, photovoltaic systems, new marking requirements, water ingress rating system as well as allowances for Low Global Warming Potential (Low GWP) Group A2L refrigerants. Nationally Recognized Testing Laboratories (or NRTLs) are using the latest edition of the UL/CSA 60335-2-40 safety standard for certification testing.

- The proposed amendments noted in Item Nos. IRC-2022-4 and IRC-2022-8 include adding the equivalent reference to UL/CSA 60335-2-40 for UL 1995 in Sections M1402.1 and M2006.1 as has been done in Section M1403.1 for Heat pumps, M1412.1 for Absorption systems and M1413.1 for Evaporative cooling equipment.

- ASHRAE 34-2019 includes many new Low GWP refrigerants that do not appear in previous editions of the standard. The 2021 IRC updates the reference to ASHRAE 34-2019.

- The proposed amendment noted in Item Nos. IRC-2022-5, IRC-2022-6, IRC-2022-7 and IRC2022-9 includes the elimination of ANCE from the standard title as ANCE withdrew as a sponsor of the UL/CSA 60335-2-40 standard after the 2nd edition.

- The States of FL and WA have passed changes in their building codes as is being proposed here where they reference ASHRAE 34-2019 and UL/CSA 60335-2-40-2019.

- AHRI sponsored fire testing at UL that was developed through cooperation of the fire service. The fire testing proved that A2L refrigerants are equivalent to A1 refrigerants regarding fire hazard. The recorded webinar from January 13, 2021 which shows UL presenting based on the refrigerant fire testing is available for watching (https://www.ahrinet.org/news-events/webinars/ahri-refrigerant-webinar-series) at the AHRI Safe Refrigerant Transition website This is webinar 6 (at the bottom of the webpage) in the series of webinars addressing Determining Application Limits & Safety Requirements for Low-GWP Refrigerants.

- The Fire Services Research Institute (FSRI) is preparing training for first responders which will be available around April 2021 based on the refrigerant fire testing recently completed at UL.

Thank you, Mr. Chairman. I'm Paul Coats, the SE regional manager for the American Wood Council.

Working with Jimmy Reynolds, we've provided the subcommittee and interested parties all the code text from the 2021 IBC and IFC that pertain to buildings of the new Type IV tall mass timber construction types.

You have it in two different forms. There's a primary one in the form of a possible appendix to the 2018 IBC for use in Georgia, I'll talk about that one in a moment.

But first I'll describe the other file, which is a PDF file, entitled "2018 VA USBC approach." That is what they are calling "Supplemental Mass Timber Information" that will appear in the Virginia Construction Code. It's a special supplement that will be printed between the appendices and the Index. It is simply the code sections from the 2021 IBC and the 2021 IFC as they are currently published, extracted and every section that was added or changed containing new mass timber provisions is reproduced for reference and use. As far as actual code changes, they just made reference to those provisions in the 2021 codes up in Chapter 6 as being acceptable to use and approve designs that comply with them—they become an acceptable alternative in the VA code.

Then finally, at Jimmy Reynolds suggestion, you have a suggested draft an appendix for the 2018 IBC and therefore the GA code which the subcommittee and SCAC may want to consider. It's just one way of actually incorporating the provisions from the 2021 IBC into the current 2018 IBC and the current GA code, with all the correct numbering and so forth to make it adoptable as code. There are other ways to do it, but in discussions with Jimmy he thought this might be a simple way to consider the provisions, that is in a form that could actually work for adoption, if that's what the committee is going to recommend.

I am completely available as a resource to the subcommittee to answer questions as you consider these provisions.

I've been asked to offer a brief description of the provisions and the major principles of the changes in the new model code to help members get an accurate picture as you look at these provisions, because of course they might be daunting to those that are unfamiliar with the material and the concepts that have been in discussion for the last five years or so. For now I'll just give a broad-brush stroke, I'm trying to fit a decade or so of code development into 10 minutes. Some of this I'll be reading for the purpose of keeping myself brief and not getting sidetracked and taking too long. It may be best to save your questions until I'm done talking, in case I happen to answer them as I go along.

Cross-laminated timber (CLT)

Photo provided by FPInnovations

What spurred this movement, and this TW Ad Hoc Committee and the new construction types in the code?

It was primarily the increasing production of a new product, Cross-laminated timber, which is typically 2-by dimension lumber laid up in cross-oriented layers of lumber and bonded with adhesives to make huge structural panels serving as solid timber walls, floors, and roofs. So, rather than repetitive-member studs, joists, rafters, or trusses, you have solid "mass" timber walls, floors, and roofs. What is shown here are 7-layer CLT panels that would make 10 and 1/2 – inch thick walls or floors. The little schematic shown on the right models one of the first CLT buildings in London, the Staudhaus, which is 9 stories of CLT all covered with gypsum.

The panels are pre-manufactured in-plant, with precision cutting for dimensional accuracy, the preparation of openings for mechanicals and other wall and floor openings, and it can be manufactured in thicknesses and dimensions as big as you can truck them and install them. Because the layers are orthogonal to one another (that is, cross-oriented at right angles for adjacent layers), they are very dimensionally stable in regard to shrinkage and swell.

Cross-laminated timber (CLT)

London infill project
29 flats (mixed affordable and private)
Ground floor office
4x less weight than precast concrete
~1/2 the construction time of precast concrete
(saved 22 weeks vs. conc. 30%)
Saves 300 metric tons of CO2
21 years of energy usage for the building

3

Why would designers be motivated to do this? The primary reasons this idea has become so popular are

1) the environmental benefits of using wood for a building of this scale as opposed to other materials. Wood is a very sustainable material because it is renewable, it stores carbon that reduces greenhouse gas emissions, and is energy efficient; its manufacturer has less embodied carbon and does very well in life cycle assessments.

2) Secondly, there are significant cost benefits due to its lighter weight, which translates into more efficient foundation structures; its less labor-intensive, and goes up very quickly so there are significant labor savings. There are other benefits, such as ascetics and warmth, that are highly valued.

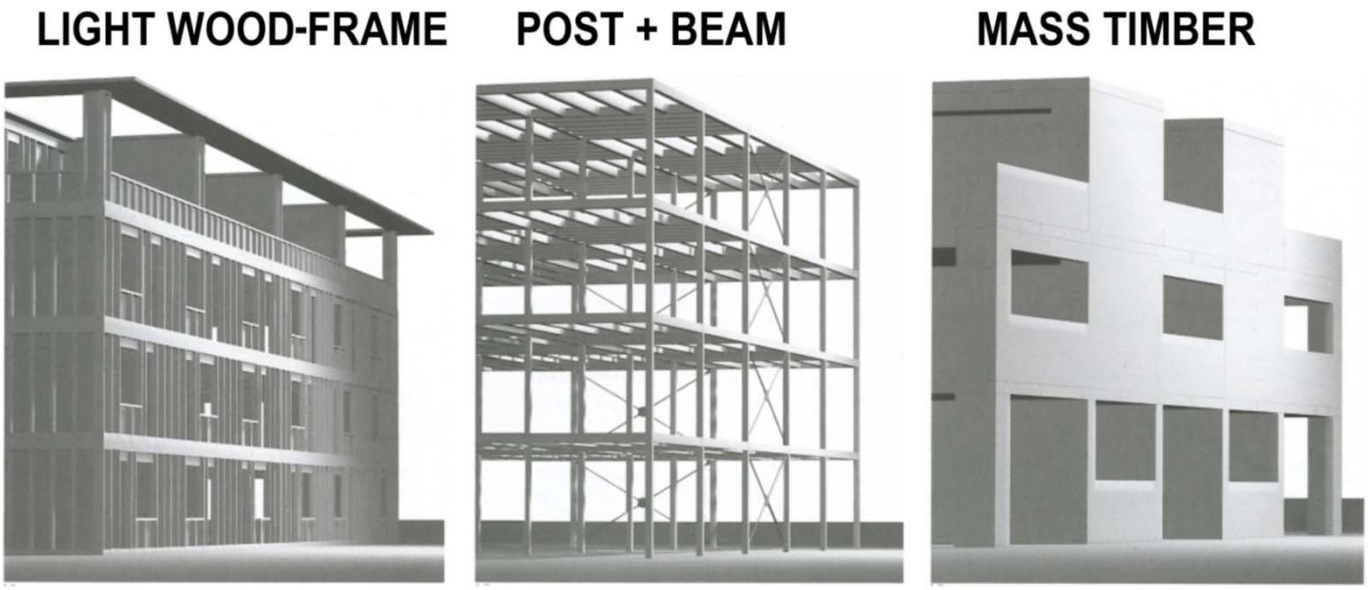


Image courtesy of Fast + Epp

4

CLT has changed the structural characteristics of wood buildings greatly. Intuitively, you can tell how solid, or "mass" timber walls and floors would make a difference from a system and structural design standpoint. The capacity of solid timber walls and floors, and their potential spans, are much greater than traditional repetitive-member systems.

But it is also very different from a fire resistance standpoint. When CLT was approved in the 2015 IBC for exterior walls in traditional Type IV heavy timber construction, the approval was largely based on an ASTM E119 fire test of a 5-ply CLT exterior wall with one layer of 5/8-inch Type X gypsum on both sides. With only one layer of gyp, it achieved a 3-hour rating. (They were going for 2, but got over 3 hours.) Right away it was recognized, as suspected, that fire resistance would be very different than for conventional frame construction.

So it was also recognized quickly that the code needed to make room for this high-performing system, and the current provisions were not going to really enable it to be used to its potential.

Mass Timber

Photo provided by FPInnovations

Photo courtesy of Structurecraft

Many mass timber building will be hybrid buildings with steel and concrete parts as well. As for wood, the three major players will be CLT, glued-laminated columns and beams, and nail-laminated timber (shown here in the lower right). Other innovative products are also playing a part, such as dowel-laminated timber and mass plywood panels. There are various kinds of CLT using structural composite lumber also, such as LVL, rather than sawn lumber.

ICC Tall Wood Ad Hoc Committee (TWB)

Photo courtesy of Susan Jones, atelierjones

As you know, ICC appointed a broad committee of building officials, architects and engineers, including fire protection engineering experts from around the world, materials experts and representation from all materials groups, and the fire service and fire officials. They were public meetings, and many other construction professional other than committee members attended and participated in the work groups. They examined available research, design, and testing done around the world.

ICC Tall Wood Ad Hoc Committee (TWB)

TABLE 601

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame [f] (see Section 202)	3[a]	2[a]	1	0	1	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls Exterior [e, f] Interior	3 3[a]	2 2[a]	1 1	0 0	2 1	2 0	3 3	2 2	2 2	2 1/HT	1 1	0 0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior [d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary members (see Section 202)	1 1/2 [b]	1[b, c]	1[b, c]	0[c]	1[b, c]	0	1 1/2	1	1	HT	1[b, c]	0

7

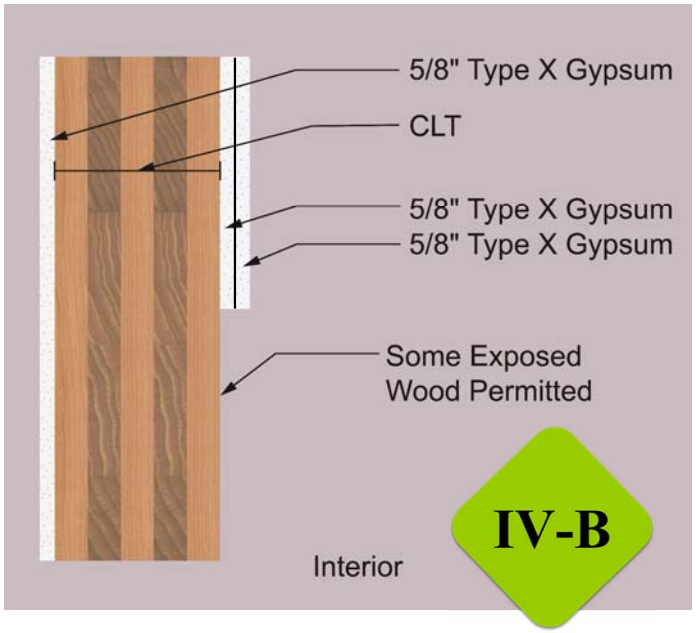
They started with a premise that if wood was going to go higher than currently permitted, it should perform like the highest construction types. They determined that mass timber could perform like Type I construction, if it's protected with noncombustible material to protect it in the case of fire. So this is the primary principle behind this whole code concept: first, mass timber dimensions, which have excellent fire performance and resistance to begin with. Then protect it with gypsum, and usually multiple layers of gypsum, in order to keep the mass timber from being involved in a fire or being able to sustain a fire after the contents has burned out.

So they started by envisioning Type IV-B construction, which would be allowed some exposed mass timber, and aiming its performance to equal buildings of Type IB construction. Type IB tops out at 12 stories and so does Type IV-B. (Type IB areas are unlimited but you'll see that there's no unlimited areas or heights for the new Type IV TMT construction types—they are considerably more conservative and limited.

Type IV-A is completely protected by gypsum (no exposed areas) and has Type IA ratings. Type IV-C allows unprotected mass timber elements, they do not have to be covered with gypsum. The committee decided to set the fire-resistance ratings high—the same as IV-B and I-B. This means its designed with much greater mass than is required for the structural design so it can perform for a long time if exposed to fire. Since the timber does not need to be protected, it goes no higher than currently allowed for traditional type IV (now called IV-HT). It is permitted additional stories within the 85-feet currently allowed, for certain occupancies (for instance, 8 stories for group R instead of 6).

Not all building elements in Type IV-C can be unprotected by noncombustible material. Shafts must be protected, and also mass timber surfaces in concealed spaces.

ICC Tall Wood Ad Hoc Committee (TWB)



Here's what a typical wall may look like. Some protection is required on the outside for all three new construction types. This shows Type IV-B with some exposed mass timber.

ICC Tall Wood Ad Hoc Committee (TWB)

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

Required Fire-Resistance Rating of Building Element per Tables 601 and 705.5 (hours)	Minimum Protection Required from Noncombustible Protection (minutes)
1	40
2	80
3 or more	120

The amount of fire-resistance that must be provided by the noncombustible protection equals 2/3rds of the required rating of the element. For instance, in a 1-hour assembly, at least 40 minutes of noncombustible protection must be provided; for a two-hour assembly, at least 80 minutes of the total fire resistance must be provided by the noncombustible protection. This is very conservative, and we'll see why they arrived at this in a moment.

ICC Tall Wood Ad Hoc Committee (TWB)

- No combustible light-frame wood
- All mass timber in concealed spaced protected by noncombustible materials
- Noncombustible exit shafts for buildings over 12 stories
- Redundant water supply for buildings over 120 feet
- No combustible material on exterior side of exterior walls, and minimum 40 minutes noncombustible protection
- Fire resistant protection of connections
- 1-inch noncombustible material on top of mass timber floors
- Partial noncombustible protection installed as construction rises, along with other construction fire safety measures

10

But first, here are the other fire safety features that were incorporated into the provisions:

No combustible light-frame wood. Partitions and concealed spaces can be furred or framed out with steel. (FRTW is not permitted.)

All mass timber surfaces in concealed spaces must be protected by noncombustible materials, just like the interior protection.

In buildings over 12 stories, exit shafts must be of noncombustible materials.

For building over 120 feet above grade, a redundant water supply must be provided (the sprinkler systems must be supplied by two separate water mains). This requirement kicks in at 420 feet for Type I buildings.

No combustible material, other than a water resistive barrier with specific performance requirements, is permitted on the exterior side of exterior walls. In addition, mass timber must be protected by at least 40 minutes of noncombustible material on that side for all the construction types.

There is a new section for the fire-resistance protection of mass timber connections—for the same time as the elements being connected.

Mass timber floors must be covered with at least one inch of noncombustible material.

Finally, there are construction fire safety measures, including protecting mass timber with at least one layer of the required noncombustible protection as construction rises (for buildings exceeding 6 stories), within four floor levels of active construction going up.

ICC Tall Wood Ad Hoc Committee (TWB)

- First performance objective: No collapse under reasonable scenarios of complete burn-out of fuel without automatic sprinkler protection considered.
- Full scale testing

If these seem like very conservative requirements, the reason for it is the committee was committed to achieving six performance objectives in all, but a primary one was:

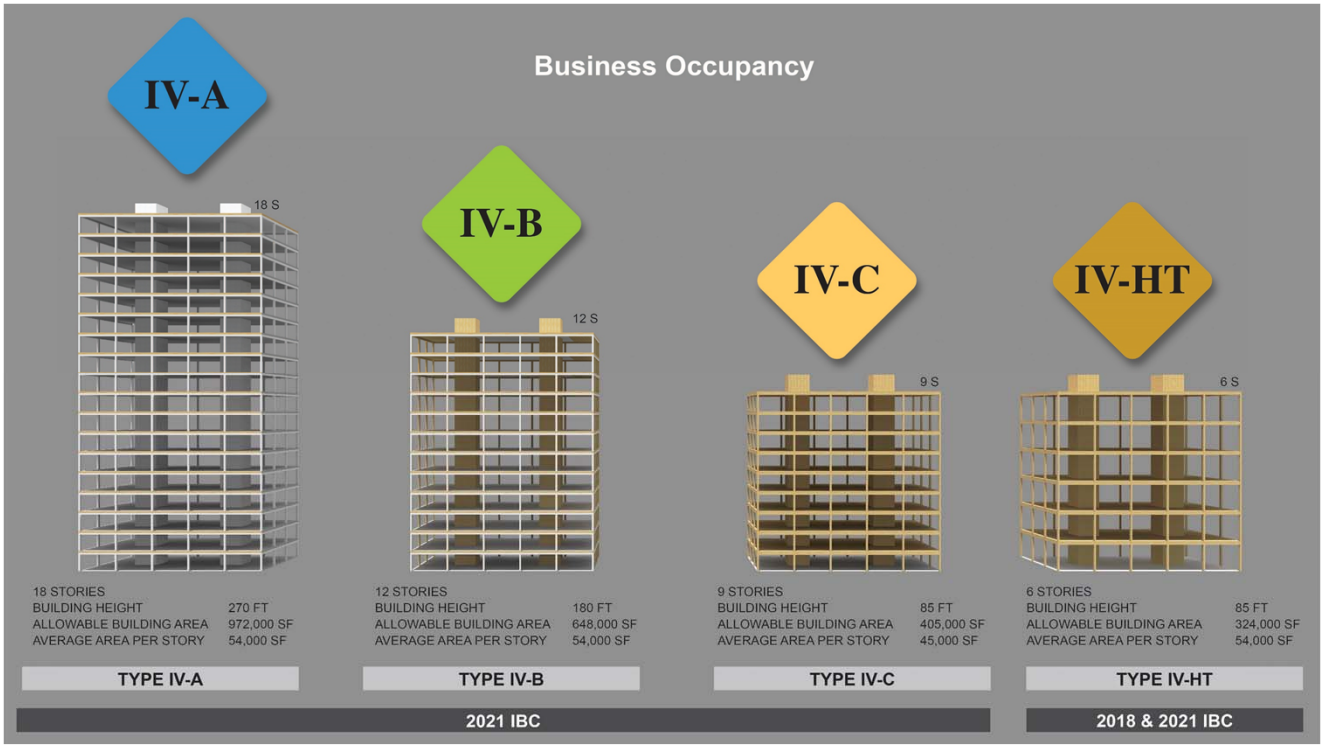
No collapse under reasonable scenarios of complete burn-out of fuel without automatic sprinkler protection considered. In other words, for Type IV-A and IV-B, because they go higher than currently permitted for heavy timber construction, they must be designed to withstand the very rare fire that is never addressed by either a sprinkler system activating nor the fire department even being able to get there. This is a very high bar.

Fire service representatives on the committee were given the prerogative of suggesting what kind of testing would be needed to confirm the required performance. Full scale testing was thought to be necessary.

A series of tests were designed and undertaken at the U.S. Bureau of Alcohol, Tobacco, Firearms, and Explosives fire test facility in Maryland. Tests were supervised by the USDA Forest Products Laboratory which published a full report which is available on ICC and AWC websites. These multi-story residential units were loaded with a moderately high residential fuel load, set on fire, and let burn for three tests (no sprinklers, let the fire burn out, completely protected CLT and glulams in one test and some exposed wall and ceiling areas (corresponding to Type IV-B construction limits in two others). Two tests were done on fully exposed mass timber units, in one the sprinkler activation was delayed until the fire neared flash over (about 21 minutes); in both cases the sprinklers controlled the fire. (Once again, in the fully protected and mostly-protected tests, combustion was not sustained after the contents had burned out.)

Here’s a portion of the exposed mass timber ceiling in that test. About one lamination burned through in the 4-hour test, before the combustion ceased due to lack of fuel load to keep the fire going.

The series of 17 changes (14 in Group A (2018), 3 in Group B (2019)) were approved at the committee and public action hearings by large margins. The final online voting sustained the approvals in large margins.



Here's a schematic showing the new construction types next to the current traditional heavy timber construction type on the right. Maximum stories for Type IV-A, highly rated and completely protected with gypsum, are 18 stories for certain groups (notably B and R), and less for other groups. Type IV-B, mostly protected with gypsum and rated as for I-B, tops out at 12 stories. Type IV-C, exposed mass timber elements except for certain features like shafts and concealed spaces, goes no higher above grade than currently allowed for traditional heavy timber, but some additional stories are permitted due to the high fire-resistance ratings required and the prohibition of light frame, and other improvement over Type IV-HT.

Georgia
Structural Pest Control Commission Proposal

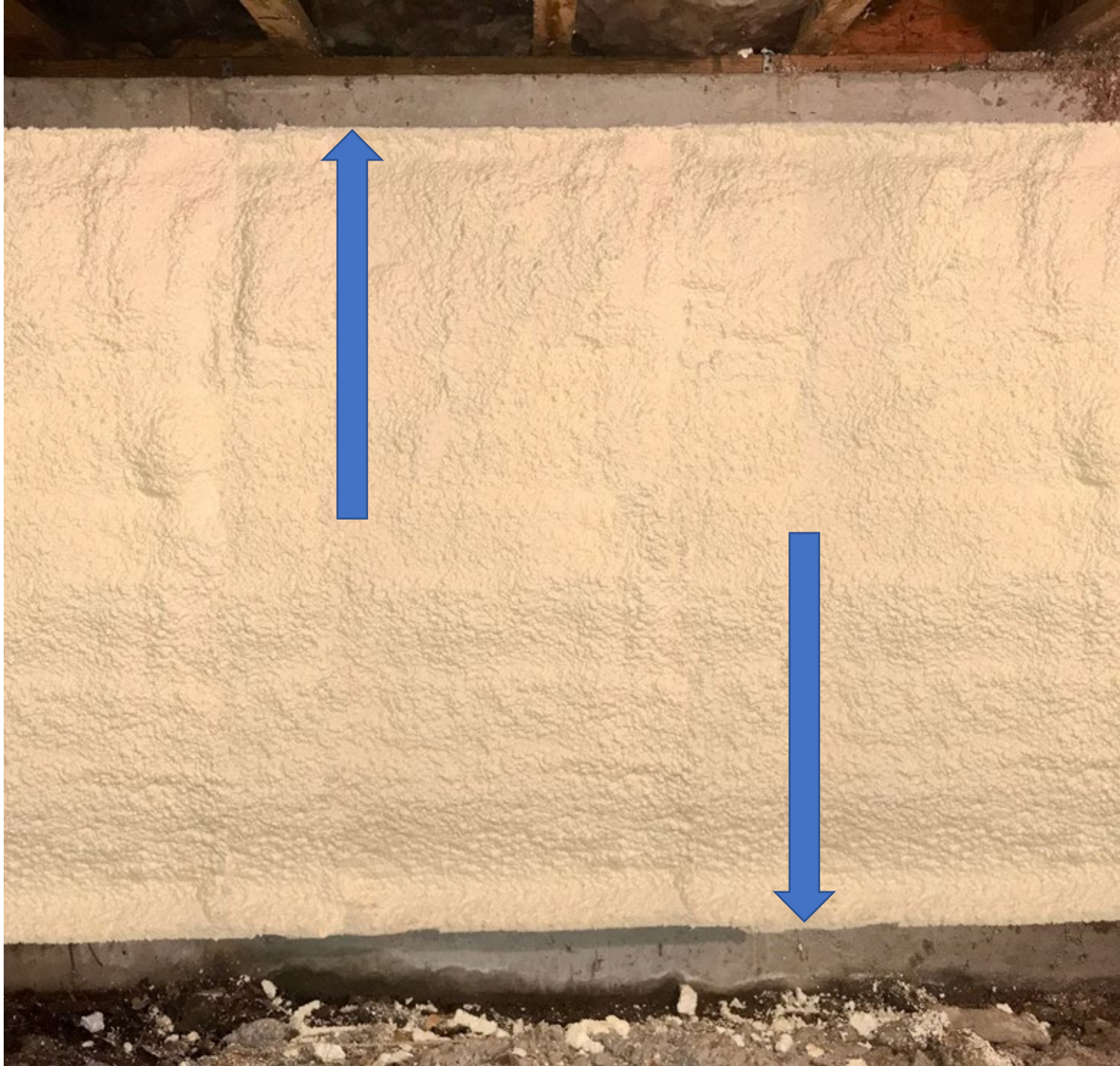
Spray Polyurethane Foam Insulation at the framing and foundation interface

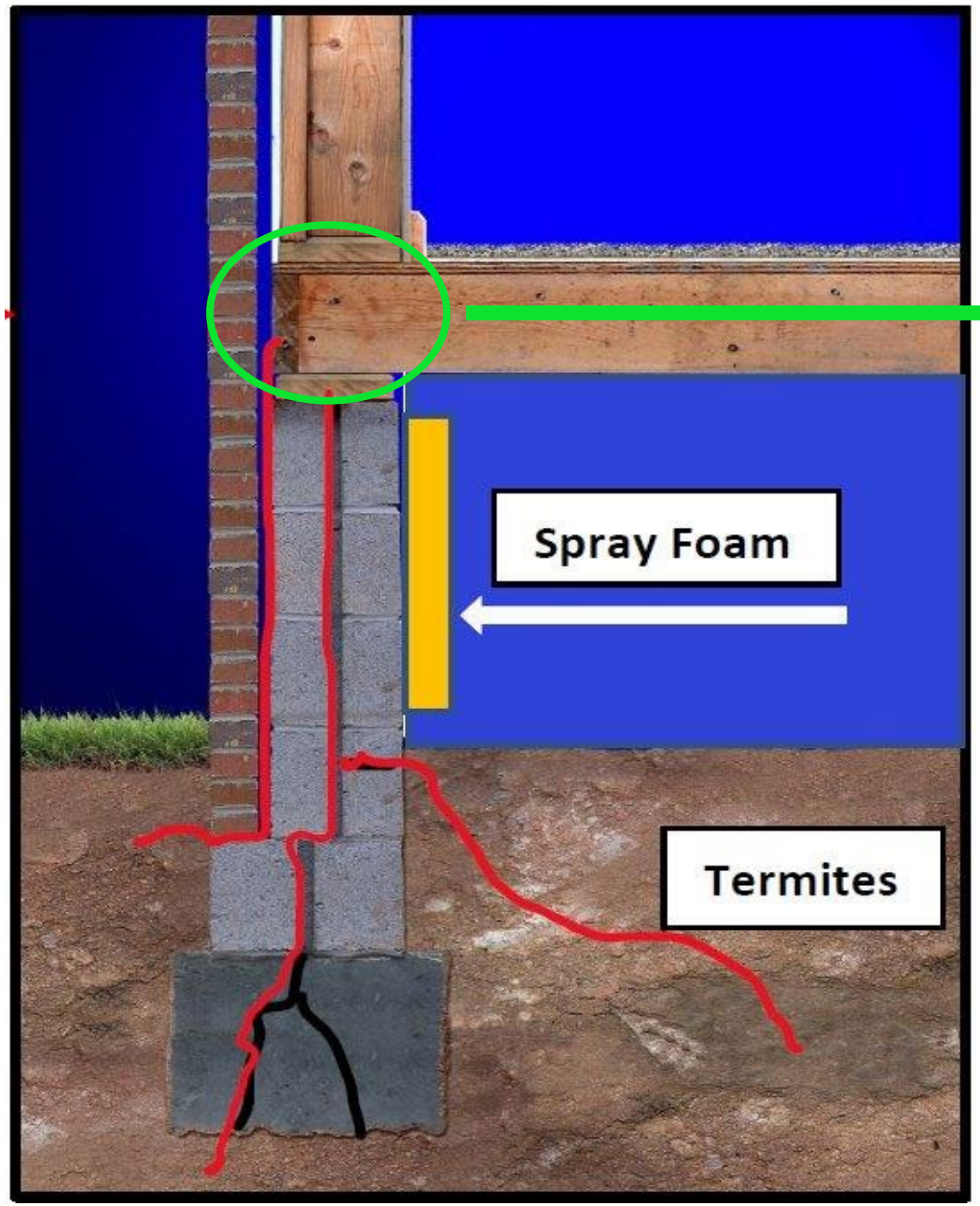
February 2021

Why was the GA SPCC not able to resolve this matter?

GA code required gaps at top and bottom of foundation walls

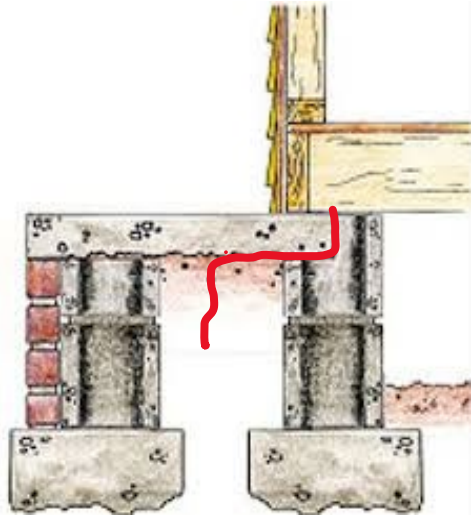
This part of the Georgia Code is **NOT** a problem at all and not the focus of the concerns we are raising with the current codes. You have done an excellent job on this!





Framing Foundation Interface

Hidden areas for termite access on the exterior



Framing/Foundation Interface Air Seal & Insulation

Air Seal & Insulate

What we are asking:

A change to the Georgia Energy Code to include language referencing the Band Area for "Air Barrier and Insulation".

<u>Current language</u> - The Band area (framing and foundation interface) of a conditioned crawlspace must be air sealed and insulated. It is <u>strongly recommended</u> that the band area be insulated with a removable insulation product to provide access for pest control inspection

<u>Proposed language</u> - The Band area (framing and foundation interface) of a conditioned crawlspace must be air sealed and insulated. It is <u>required</u> to air seal with caulk or foam at the joints connecting the band board to the floor sheathing and the sill plate on top of the foundation and it is <u>required</u> to be insulated with a removable insulation product to provide access for pest control inspection

Thank You!

Georgia Building Code Change Sub-Committee Script

Slide 1:

I would like to thank the committee for the opportunity to meet with you today.

My name is Chris Gorecki and I work for Rollins which is a pest control company based here Atlanta and made up of several different Brands across the world, with Orkin being the largest.

I am also the current past president of the National Pest Management Association and I serve as Chairman of the Georgia Structural Pest Control Commission

Slide 2:

I would like to start by addressing a question I have heard multiple times, which I believe needs clearing up. The question is ***"Why couldn't the Department of Agriculture and Structural Pest Control Commission get this problem worked out"?***

It is important to know that the Structural Pest Control Commission is established under state law to partner with Georgia Department of Agriculture to provide consumer protection through regulation of pesticides and pest management professionals only…..***The Department of Agriculture does not regulate the Spray Polyurethane Foam industry!***

We started working with the SPF Alliance in 2018 in an attempt to address concerns about SPF and termite control in Georgia.

Up to this point, the SPF Alliance's approach…..has been to attack the Pest management industry by stating unsubstantiated information about detection devices, and present information on why they cannot change the way they conduct their business. The constant theme with all SPF proposals and comments is for them to be able to apply spray foam with no repercussions, consideration, or protection for homeowners in Georgia. Every SPF proposal has deflected liability or responsibility to someone else….so they can continue to apply spray foam the easiest and cheapest way.

Unfortunately, this is why we are here today…

Slide 3:

The State of Georgia Building codes are one of a few that require termite ***inspection gaps*** at the top **and** bottom of the foundation walls….and leads the country for acknowledging

the ability to conduct an inspection and determine termite activity coming up the ***inside*** crawl space or basement foundation walls, which is paramount to protecting Georgia homeowners.

This part of the Georgia Code is **NOT** a problem at all… and is **not** the focus of the concerns we are raising with the current codes. You have done an excellent job on this!

Slide 4:

This drawing shows a side view of a crawl space with spray foam applied to the foundation wall with the required inspection gaps. If termites come up the foundation wall that spray foam is applied on, we can detect them due to the required inspection gaps.

However, termites can still enter the structure bypassing the current inspection gaps… The current code ***does not,*** facilitate detecting termites that enter buildings through cracks in footings, foundation walls voids, mortar joints, earth filled and hollow porches, fireplace bases, exterior cladding over the foundation, joints along adjacent concrete walkways, patios, or landscaping features…***IF*** the framing/foundation interface is not accessible for inspection…These points of entry provide direct access to the first wood materials termites would encounter…THE FRAMING/FOUNDATION INTERFACE…

CLICK FOR NEXT PICTURE

This area…is the focus of our proposal……The need to have this area accessible for inspection due to the additional hidden termite entry points just mentioned

CLICK FOR NEXT PICTURE

Allowing the framing/foundation interface to be covered with SPF is the easiest way for spray foam applicators to meet the current code requirements of air sealing and insulating in this area, **but….**this practice is creating unnecessary liability for countless Georgia homeowners every day. Homeowners who stand the chance of losing their termite warranties and suffer severe structural damage caused by termites because the home cannot be inspected in one of the most critical areas.

Slide 5:

These pictures represent examples of some areas on the ***exterior of a structure*** that are inaccessible for inspection and the only way to determine if there is termite activity…..is having the ability to inspect the framing/foundation interface in the crawl space or basement…..

You can see examples of earth filled and hollow porches and a drawing showing how termites can enter a home from these structures

Landscaping practices can contribute to hidden access to a structure

Chimney bases provide numerous hidden points of entry

Siding and adjacent slabs can also provide hidden entry points to a structure

Slide 6:

I have a short video that shows how air sealing and insulating **can** be done without extending unnecessary harm to homeowners in Georgia and also provides access for inspection of the critical area…….the framing/foundation interface.

AFTER VIDEO PLAYS - I purchased these materials from Home Depot and I am confident the process would be made much easier with the use of spray guns attached to hoses by SPF applicators….
I would also like to point out that the Pest Management Industry will be taking on the additional responsibility to remove and replace the insulation to conduct their inspections….adding labor costs.

Slide 7:

WHAT WE ARE ASKING….. A change to the Georgia Energy Code to include language referencing the Band Area for "Air Barrier and Insulation".

Current language - The Band area (framing and foundation interface) of a conditioned crawlspace must be air sealed and insulated. It is strongly recommended that the band area be insulated with a removable insulation product to provide access for pest control inspection

Proposed language - The Band area (framing and foundation interface) of a conditioned crawlspace must be air sealed and insulated. It is required to air seal with caulk or foam at the joints connecting the band board to the floor sheathing and the sill plate on top of the foundation and it is required to be insulated with a removable insulation product to provide access for pest control inspection

I mentioned in my pre-read document that…A similar product and problem occurred in the 90's with "Rigid Board Insulation". Many, homeowners throughout Georgia and the

Southeast U.S. receive serious financial harm because of this product being applied incorrectly and the Rigid Board Insulation or Dryvit having contact with the ground….thousands of homeowners suffered due to termites having direct access into the home. Fortunately, the codes were changed and Georgia consumers and all involved were helped.
This code change is also needed and will protect homeowners in Georgia from excessive damage and unnecessary expense to their homes!

Slide 8:

Thank you for your time today!

TERMITE INSPECTIONS AT THE FRAMING FOUNDATION INTERFACE

Consumer Protection and Maximizing Energy Efficiency

American Chemistry Council | Spray Foam Coalition

Consumer Protection:

Balancing visual inspections; insulation; and air sealing

Termite protections are multifaceted

- Barriers
  - Force termites to be visually noted
- Preventative treatment
- Visual and alternative inspections
- Reactive treatment

Moisture Damage and Prevention

- Moisture in framing foundation interface (FFI) will create ideal conditions for termites, wood rot, corrosion and mold
- Strategies to control moisture add layers and create hidden pathways for termites

Consumer Protection:

Balancing visual inspections; insulation; and air sealing

Air Leakage

Builders must meet air tightness requirements

5.0 ACH_{50}

Home energy performance

Homes insulated with high performance products often are more airtight and save more energy

Impact on energy Bills

High performance insulation can save energy use and help reduce carbon emissions from buildings

Consumer Protection:

High-performance insulation and air barriers

Used to create conditioned crawlspaces and basements

Provide high R-values/inch and are air impermeable

Conditioned crawlspaces protect consumers *and* builders

- Help meet code required measures for airtightness
- Improve energy efficiency and reduce energy bills
- Avoid moisture issues in crawlspaces
- Reduce air leakage

Current Termite Inspection Requirements

IRC R318.4

- 6-inch ground clearance above exposed earth required for foam plastics
- Prohibited on exterior face of foundations and below foundation walls and slabs
- Permitted on interior face of basements and crawlspaces
- Exemptions:
  - Noncombustible materials
  - Pressure treated lumber
  - Interior side of basement walls

Georgia Amendment R402.2.11

- 3-inch termite inspection gap at the top of the foundation wall
- Crawl space wall insulation shall be permanently fastened to the wall and extend downward from the floor to within 9 inches (229 mm) of the finished interior grade adjacent to the foundation wall.

SPF Industry Concerns with GSPCC Proposal

Building Science

- Does not fully address air leakage and moisture controls

General Concerns:

- Changes to FINISHED basement walls are unnecessary
  - Visual inspection cannot happen behind drywall
- Relies solely on visual inspection

GSPCC showed alternative inspection technology works

- Microwave motion detection device
- Destructive sampling

A complete ban on high performance insulation in the FFI is not supported

- Several pest control companies are working with foam
- Hidden pathways will always exist in homes
- Will impact energy efficiency and structural benefits of foam insulation

Spray Foam Industry Proposal

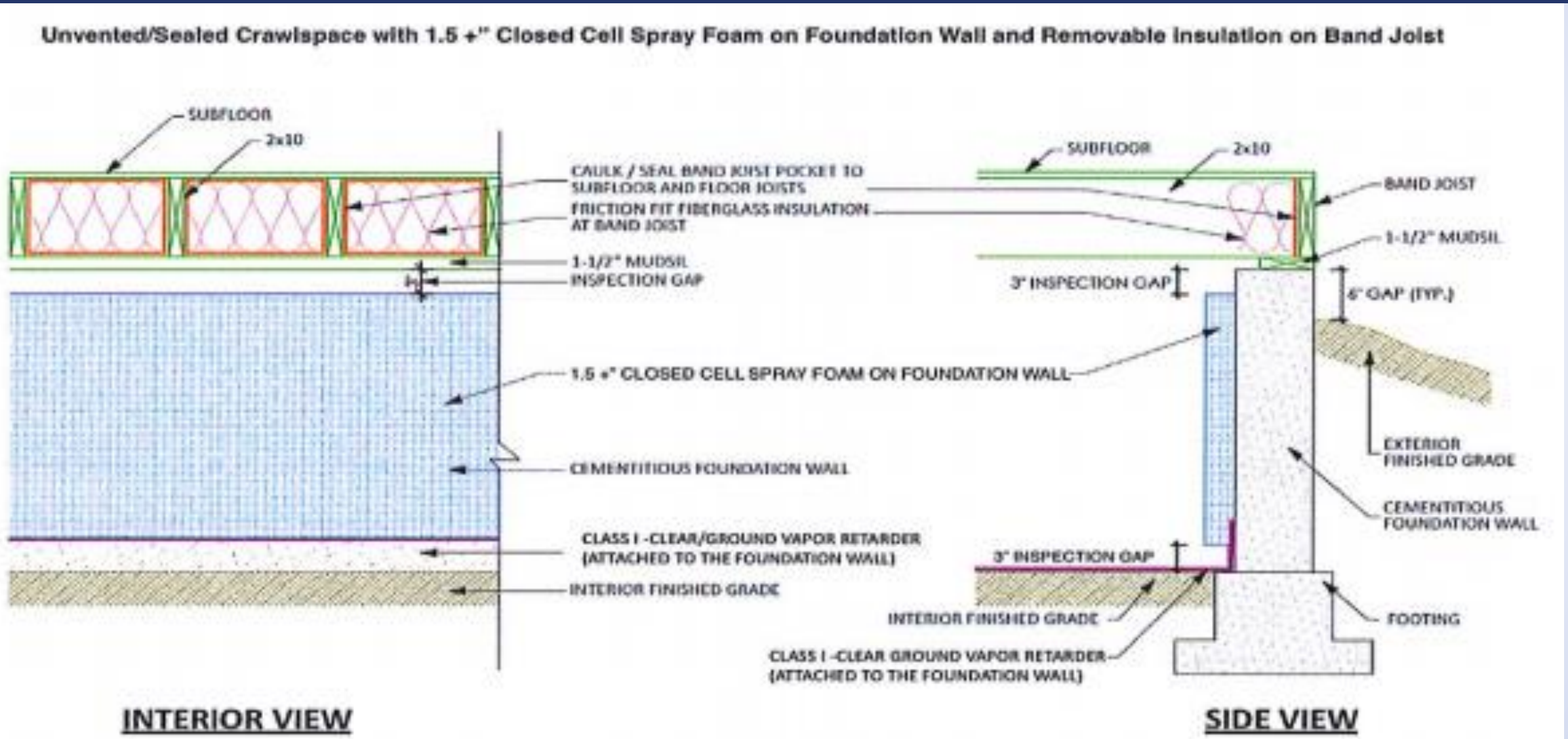
Moves all termite requirements to section R318

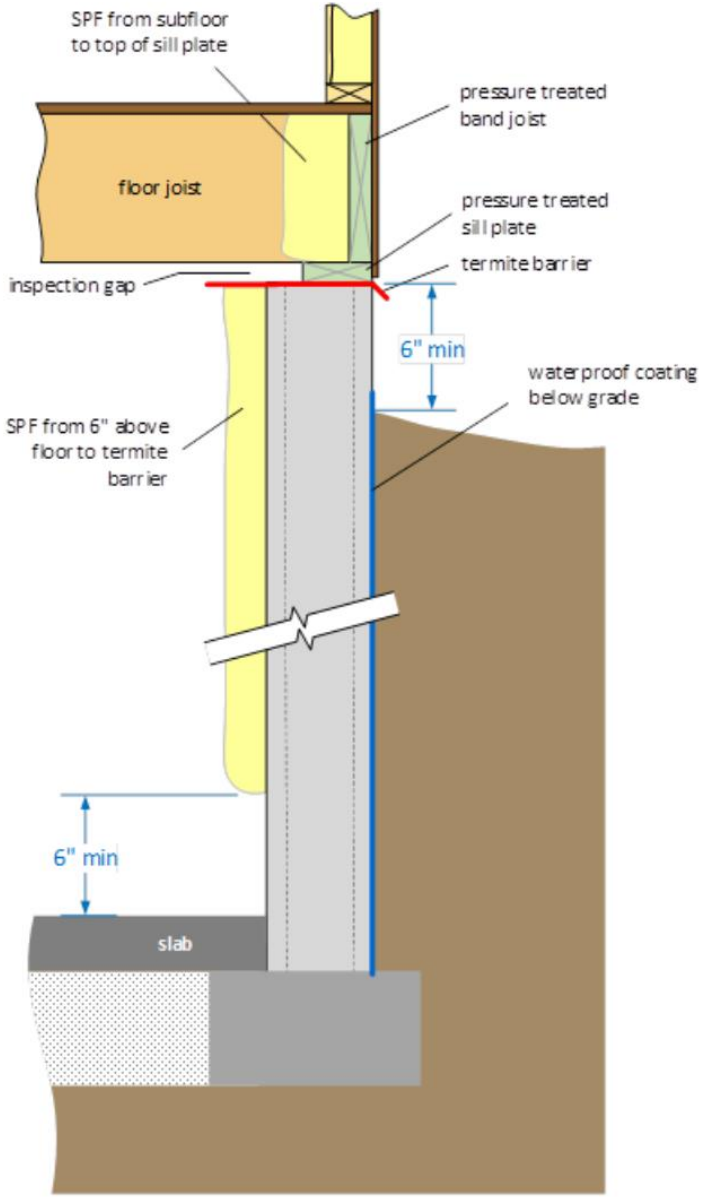
Strengthens language on termite barriers/shields

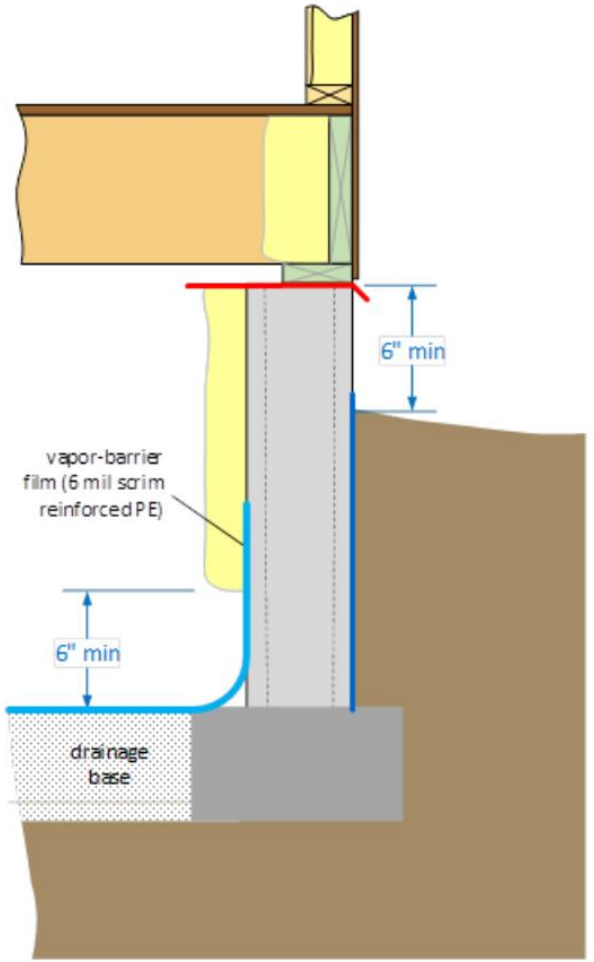
Requires preservative treated wood in areas that will be concealed by non-removable insulation and air barrier schemes

Adds exemptions and flexibility to maximize consumer protections and consumer choice

Georgia Structural Pest Control Commission's Proposal







Optional Conditioned Basement & Crawlspace

SPF Industry Proposal Protects Consumers and builders

Proposal collects termite protection measures into Section R318 so they will be easily understood and applied

Continues to allow fully conditioned energy efficient crawlspaces if certain requirements are met

Protects consumers from termites and promotes energy efficiency

Improves termite protection strategies/options for new homes

Addresses evolving energy efficiency requirements