

# **VIRGINIA FIRE SERVICES BOARD**

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Live Fire Training Structure Meeting  
Friday, January 13, 2023  
VDFP Headquarters  
1005 Technology Park Drive, Glen Allen, VA 23059

## **Minutes**

The Virginia Fire Services Board Live Fire Training Structure Committee meeting was held in Glen Allen, Virginia at the Virginia Department of Fire Programs headquarters. The meeting was called to order by Chair Reeves-Nobles with quorum present.

### **COMMITTEE MEMBERS PRESENT**

Bettie Reeves-Nobles, Chair, General Public	Jess Rodzinka, Virginia Professional Firefighters Association
Steven Sites, Virginia Municipal League	Claudia Cotton, Housing and Community Development
James Calvert, Member of Industry	

### **COMMITTEE MEMBERS ABSENT**

Dennis Linaburg, VA Chapter of IAAI	Jerome Williams, Certified Fire Service Instructor
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### **AGENCY MEMBERS PRESENT**

Theresa Hunter	Spencer Willett
Deshaun Steele	Nicholas Nanna
Will Merritt	

### **GUESTS PRESENT**

Abbey Johnston, VFSB Vice Chair	Brandon Proffitt, Goochland Fire-Rescue
Travis Ford, Richmond Fire and Emergency Services	Michael Matthews, TSG
Mike Watkins, Goochland Fire-Rescue	

### **CHANGES IN THE AGENDA**

No Changes in the Agenda

### **PUBLIC COMMENTS**

No Public Comment

### **CONSENT AGENDA**

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## **COMMENTS FROM THE COMMITTEE CHAIR**

Chair Reeves-Nobles welcomed the committee and stated that she looked forward to having a robust conversation about the Live Structure program.

## **UNFINISHED BUSINESS**

### **A. Review of Live Fire Training Structure Prototype Program**

Chair Reeves-Nobles explained the current prototype structures and introduced Michael Matthews to present on the prototype process.

Michael Matthews from TSG presented on the history, background, and use of burn buildings. He requested that the presentation be more of a discussion and offered guidance on burn buildings moving forward. Matthews provided a comprehensive review of the burn building program, along with relevant NFPA standards related to live fire training. He expressed that the VFSB wished to have prototypes that exceeded national standards and peer states. Matthews gave specific examples, such as Prince George County, regarding the history of requests for the use of shipping containers. He also spoke on the International Building Code and its relation to Virginia's building code.

Claudia Cotton asked questions about the specific use of the Prince George request. Matthews explained that the use was for live fire structure training.

Abbey Johnston requested clarification on the reason the Prince George project did not move forward. Matthews explained the process of Virginia amending the International Building Code, its relation to Virginia, and how it effected the Prince George project. He also explained the funding issues that Prince George experienced regarding the project.

Claudia Cotton and Steven Sites clarified that next year will be when the code is adopted in Virginia.

Matthews provided further discussion about maintenance and the proper documentation needed so that localities could receive funding. He spoke about the need for an independent architecture and engineering firm for the localities to comply with state procurement law. Matthews spoke specifically about Goochland County's former building and the reasons it left the burn building program. He also spoke to the number of and types of companies that provide shipping container style buildings. Matthews

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highlighted concerns with container construction through the presentation. This includes the expansion of steel related to high heat impingement from live fire training, maintenance, meeting firefighter training requirements, and having an effective service life. He presented a video imbedded in the presentation that showed a specific instance of a container building falling over.

Abbey Johnston requested clarification on the differences between the mobile training prototype and the requested building from Goochland. Johnston implied that the mobile training prototype is very similar to the Goochland request except it is on wheels. Johnston questioned the difference and if there should be an issue with a fixed structure. Matthews explained the trailer is temporary and that it could be transported. Goochland's would be fixed in one location. The smaller square footage for the trailer was to allow it to be moved.

James Calvert questioned the basis of the square footage in the beginning of the program. Matthews explained that research was conducted in the region on other buildings to find a number to allow training and live fire burns safely.

Chair Reeves-Nobles questioned whether the creation of a fourth prototype is doable. Mr. Matthews stated he could not work directly with Goochland because of conflict of interest, but could work with them, the board, and manufacturers to create a prototype.

Mr. Matthews reiterated that an independent architecture and engineering firm would be needed and that the square footage would need to be adjusted. He spoke on the number of localities that exceed the square footage and the expected maintenance. Theresa Hunter clarified how Fire Programs administers maintenance funds to structures already built by using the minimum square footage.

James Calvert questioned the date of the manual and asked questions concerning the proposal submitted by Goochland County Fire-Rescue. Brandon Proffitt explained he had a presentation on the proposal.

Brandon Proffitt further explained that Goochland had an architecture and engineering firm and that they were not approached by a vendor but were looking for concepts. He explained that Draeger would offer a turnkey structure through a procurement program that Goochland County utilizes. Proffitt reiterated this is a concept until Goochland moves into the procurement stage.

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Chair Reeves-Nobles questioned how the \$30,000 architecture and engineering funds would be used. Proffitt explained that a third-party contractor would review the Draeger design and that Goochland hoped the remaining funds could be used towards the project.

Mike Watkins highlighted the mobile burn trailers damage and how they were turnkey structures that are on wheels. He reiterated that Goochland is working in a confined area and that this structure is like the mobile burn trailers owned by VDFP.

Claudia Cotton questioned if the building met the 2021 IBC requirements. Proffitt explained he would verify this but that it meets OSHA standards. Watkins stated that the Goochland building official is aware and will assist in making the structure compliant.

Jess Rodzinka questioned Matthews on the difference between homemade shipping containers versus engineered structures using shipping containers. Matthews explained there were differences between homemade and engineered structures.

Proffitt delivered a presentation on the Goochland structure from Draeger that outlines the design and safety features of their request. The presentation utilized building plans and photos of thermal lining in the proposed structure. Calvert questioned the thermal lining in the container and if it was everywhere except the windows. Proffitt explained that he believed that was the case. Reeves-Nobles also questioned if this was being reviewed for safety regarding the emergency shutoff temperature.

Calvert conducted a conversation with Proffitt about thermal couples and the safety features that it provides in the building. Matthews pointed out that an examination of where the thermal couplings are is important. Calvert also discussed the thermal barriers in the structure and the effect on the load bearing components. Calvert questioned if the roof was considered a load bearing structure, which Matthews stated it was.

Cotton questioned the exterior temperature and its effects on the structure. Proffitt believes that this structure is pre-engineered to prevent this, unlike a regular container that is homemade.

Sites questioned Goochland on ceiling roof bracing that will be required in the next update to the building code in Virginia. Proffitt stated he was not aware of this in the Draeger model but that the shipping container is already designed to be load bearing.

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The building is loaded at 50 psi, which is the national standard. Sites further questioned where Draeger gets the shipping containers. Proffitt believes they purchase new containers and engineer them specifically for fire training.

Matthews spoke about the smaller size of the proposed structure, how it does not meet all the current standards, and how the cost is still significant compared to standard burn buildings in the Commonwealth.

Reeves-Nobles questioned if Goochland had spoken with any other companies. Proffitt explained that they had, but Draeger invested in helping Goochland and provided more information than other companies. Reeves-Nobles further questioned if the county would put this out to bid. Proffitt explained they expected to use a cooperative agreement. Theresa Hunter explained that there is a requirement to have a competitive bid process.

Watkins explained the reasoning for using a shipping container and the use of a Class B building. The ability to move the structure and the cancer prevention provided by a Class B building were major reasons. He stated the project may be in jeopardy if a decision is not made by the board.

Matthews questioned if the Department of Fire Programs (VDFP) and the Virginia Fire Services Board will create a new prototype or reduce standards for the state to meet NFPA 1402. VDFP standards are higher than the minimum and the board would have to consider this when looking at new prototypes.

Calvert discussed the square footage and how that effects maintenance. He questioned if the localities have done a cost benefit analysis of using structures like this. Watkins stated that was the case. Calvert further questioned if the load bearing components of the structure will ever exceed 350 degrees but also stated this should not be a large concern if the thermal barriers are in place to meet the longevity of the building. People return and ask for money often, but they are often for Class A buildings. He further spoke about firefighters damaging burn buildings by increasing the heat. Class B moves away from carcinogens created by class A materials and should provide safe training with less damage. Heat cannot be built up like in a Class A building. There were 22 issues between the Goochland proposal and the prototype but many of these are fixed.

Watkins reiterated the significant distance that Goochland must travel to burn currently.

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Calvert spoke about how these structures are becoming more prevalent, but without the boards lack of action, there are containers being used without safety regulations. If the board created a prototype that regulated this, it would make it better for localities. This is also a good use of the funds for the Commonwealth.

Reeves-Nobles supported the development of a fourth prototype for container construction considering James Calvert's comments.

Abbey Johnston spoke about her involvement in operations of fire departments and how this is where the industry is moving. Also supported the idea that this could create better training opportunities for regional partners.

Travis Ford stated the City of Richmond is also looking at a container style building and that these plans were presented to the board in February of 2022. Ford asked that Richmond be considered with Goochland's request.

Reeves-Nobles stated she wanted to get a prototype developed and also give Richmond and Goochland the opportunity to build these structures. She emphasized that she did not want to prolong the process or cause further delay for either locality before the board or future localities.

Matthews questioned if the board would make an exception over the square footage for Goochland and if they will continue this precedent. Calvert stated that he supported approving the proposals because they meet NFPA 1402 and the needs of the localities. Size is not the issue for Calvert if it provides adequate training.

Watkins explained that Goochland would invite VDFP and members of the board to visit the structure if approved and would work with the Commonwealth in the development of the prototype.

Spencer Willett stated that multiple members had made motions without a second and recommended the chair consider these motions before further discussion.

Chair Reeves-Nobles asked James Calvert to restate his motion for the board. Calvert explained that his motion was to approve the requests from Goochland and Richmond if they meet NFPA 1402 requirements because the VDFP manual is from 2013.

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**Motion:** To approve Goochland County and Richmond City, if they meet NFPA 1402 standards until VDFP can develop a standard, to construct a live fire container building as a test for VDFP.

**Motion:** Calvert, Second: Rodzinka

**Discussion on the Motion:**

Nicholas Nanna questioned how this would affect VDFP accepting NFPA 1402 in the future. Calvert said this would only be in the interim until the VDFP standards can be brought up to date. Nanna expressed concerns about this and recommended allowing Goochland to build one as a test run. This would allow to test for best practices. Calvert agrees with using Goochland as a prototype test run for VDFP and the board.

Johnston states that Nanna's comments speak to another motion made by Reeves-Nobles that can be discussed after the motion made by James Calvert.

Chair Reeves-Nobles allowed Travis Ford to explain Richmond's proposal and the need for Richmond to be included in the motion. Ford highlighted the timing problems associated with waiting on a decision and stated that Richmond's building would be much larger than Goochland. Reeves-Nobles clarified that Richmond wants to be included in this process.

Sites suggested using the word interim in the motion relating to Calvert's motion. Calvert agreed with Sites.

Chair Reeves-Nobles allowed Proffitt to clarify with the committee about if the structure meets IBC requirements. Proffitt stated that it did, which was refuted by Matthews because it is not a prop. Matthews reiterated the need for an architecture and engineering firm and that drawings should be from the firm, not Draeger. Reeves-Nobles asked if Goochland could get information from an architecture and engineering firm. Proffitt reiterated that any money left from the architecture and engineering firm would be used for the building. Matthews explained the typical process, which uses the architecture and engineering firm to create the drawings. Johnston asked about the process and Theresa Hunter clarified when the drawings are typically submitted.

Johnston stated that she believed it was considered a prop until it is attached to a concrete pad. Matthews stated this was not the case once you start stacking containers. Calvert stated that NFPA 1402 defines what a mobile prop is. Sites asked if this would be classified under an industrial use, and if it is, the building official is not involved because

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it goes to the Department of Housing and Community Development. Matthews disagreed with this assessment. Sites stated that as the building official in his jurisdiction, that is the correct interpretation.

Calvert questioned the Richmond proposal since it was not in front of them. Chair Reeves-Nobles allowed Travis Ford to explain Richmond's proposal, which was presented at a prior meeting. Theresa Hunter advised that Richmond may need an extension for the grant.

Reeves-Nobles confirmed that each locality has an architecture and engineering firm.

**Vote:** Unanimous Approval

**Action:** Motion Carries

Chair Reeves-Nobles made a motion related to the development of a fourth prototype.

**Motion:** To ask TSG to work on a fourth prototype on a live fire container construction building. During the process also providing guidance to Goochland County and the City of Richmond.

**Motion:** Reeves-Nobles, Second: Calvert

**Discussion on the Motion:**

Hunter questioned the wording of the motion to make sure TSG does not violate conflict of interest by working with Goochland or Richmond. Reeves-Nobles agreed that TSG could provide guidance to the localities instead of working with them.

Calvert questioned the purpose of the cooperation between TSG and the localities. Reeves-Nobles explained that Goochland and Richmond could build their structures while TSG develops the prototype, incorporating lessons learned from the two localities.

Sites clarified if the fourth prototype was written before the buildings were complete what would occur. Reeves-Nobles stated that is why there were two motions made for this issue.

**Vote:** Unanimous approval

**Action:** Motion Carries



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Hunter questioned what guidance TSG would have concerning the size of the rooms. Calvert asked if NFPA 1402 included guidance on the size of the rooms. Reeves-Nobles questioned if current sizes could work. Matthews stated that prior container prototypes submitted to the board did meet the size requirements of current VDFP prototypes and that this could be incorporated into the new prototype.

## NEW BUSINESS

No new business of the committee

## ADJOURNMENT

### Motion to Adjourn

**Motion:** Calvert, Second: Rodzinka

**Vote:** Unanimous Approval

**Action:** Motion Carries