BCOM NEWSLETTER

Issue # 41 May 2018

In this issue:

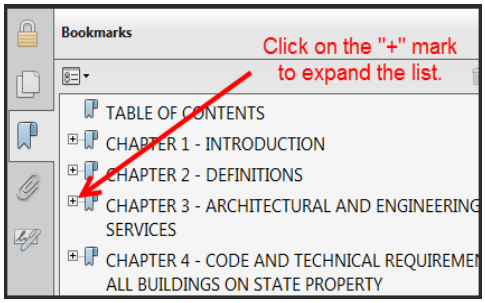
2018 CPSM – Rev 0

The new **2018 Edition of the *Construction and Professional Services Manual*** (aka, "the CPSM" or "the Manual") was issued on May 31, 2018. The new edition replaces the prior 2017 – Rev 0 edition which was issued on September 30, 2017. All recent editions of the Manual may be accessed from the CPSM webpage of the BCOM website.

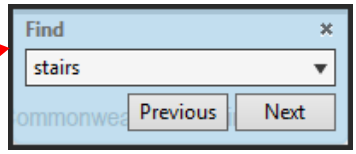
An associated **DEB Notice 053018** is available on the DEB Notices webpage. This Notice provides a summary of the significant changes incorporated in the new CPSM edition.

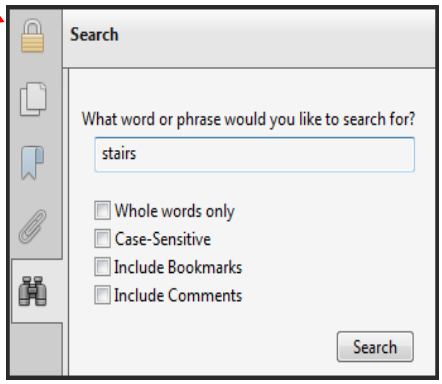
BCOM recommends users download and use the Manual in electronic (pdf) format for the following reasons:

- **Bookmarks**
  The pdf file includes a complete "bookmarks panel". This allows users to quickly navigate to any specific section or subsection of the Manual using these embedded links. The Table of Contents of the Manual, proper, also links to the various sections/subsections.



- **Search Features**
  The Manual is saved in a full text searchable format. Users can do a simple search by clicking the Ctrl + F keys simultaneously to bring up a search box or can use the Adobe "binoculars" icon to call up more advanced search commands. (The features available may differ based upon the user's installed version of Adobe or other pdf readers).





- **Embedded Hyperlinks to Other Sources**
  Many hyperlinks to other internal and external websites have been included within the text of the new Manual. Especially notable are links directly to the specific individual forms on the DGS Forms Center. For forms that are processed within the BITS application, users will be directed to the BITS login page. (A user account is required for access to the BITS application.) ❑

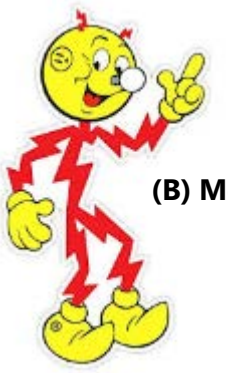
Principles for Safe Electrical Designs

The overall objective of any electrical design is to deliver electricity to a load in a safe and reliable manner. To do so, the designer must ensure that the electrical equipment ratings are not exceeded. When electrical ratings are exceeded, the result can be equipment failure and potentially loss of life. An easy way to understand electrical equipment ratings is to use the analogy of a tire, tire gauge and tire pressure. All tire manufacturers have a recommended tire inflation guideline. If the tire is over inflated, it can fail. The failure can result not only in the destruction of the tire, but also possible injury to the driver or others. Through various testing methods, electrical equipment manufacturers have determined the amount of current that it can be safely handled without catastrophic failure and injury to personnel. Just as tire manufacturers have a pressure rating, electrical manufacturers have ratings like AIC and SCCR for their equipment.

AIC and SCCR ratings of Equipment

AIC stands for the available interrupting current and SCCR stands for short circuit current ratings. Producing electrical designs, which stay within those parameters, is essential for any safe electrical project. One of the first steps is to contact the utility to determine the available fault current at the service entrance. Once that value is known, the designer can properly select equipment. NEC 110.24 (A) and (B) states the following:

(A) Field Marking.



Service equipment in other than dwelling units shall be legibly marked in the field with the maximum available fault current. The field markings (s) shall include the date the fault current calculation was performed and be of sufficient durability to withstand the environment involved.

(B) Modifications.

When modifications to electrical installations affect the maximum available fault current at the service, the maximum available fault current shall be verified or recalculated. This is necessary to ensure the service equipment ratings are sufficient for the maximum available fault current at the terminals of the equipment. The required field marking(s) in 110.24(A) shall be adjusted to reflect the new level of maximum available fault current.

Do not assume that an existing utility system fault current is the same as when the original design was installed. Always check with the utility to get the latest available fault current. Also, consider all the factors and tradeoffs when redesigning your electrical system. For example, reducing transformer impedance from a previous design due to replacement of failed or obsolescent equipment could result in higher available fault current, which exceeds other pieces of electrical equipment in the electrical system. Another example could occur when a designer increases cable size for voltage drop. The larger conductor size has a positive impact on voltage drop but it may have a negative impact on fault current due to the reduction in cable impedance. The increase in available fault current could potentially create problems elsewhere in the system. Taking a step back and looking at the big picture is essential to producing safe and reliable electrical system designs. ❑

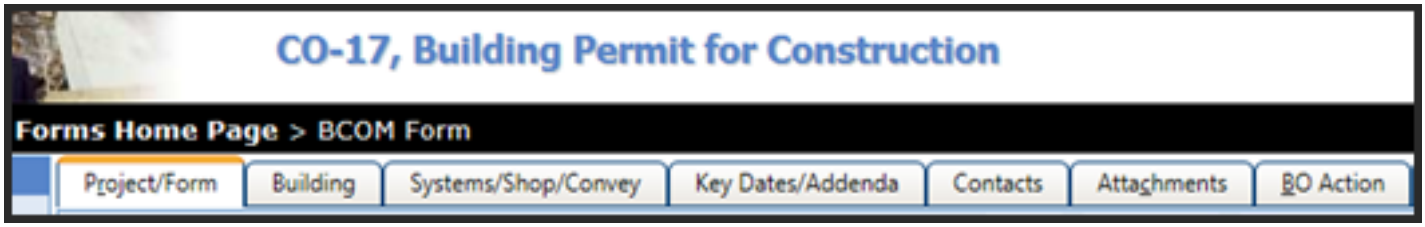
Helpful Hints for Filling out a Building Permit Application

Building permits for construction and renovation on State property are issued by the Director of the Division of Engineering and Buildings (DEB), who is called the State Building Official. A building permit is required for work in accord with VUSBC Section 108, *Application for Permit*.

When a building permit is required to be issued by the State Building Official, the applicant shall submit construction documents to the Bureau of Capital Outlay Management (BCOM) for review and approval. Once BCOM is satisfied that the construction documents are in conformance with all applicable building codes, accessibility requirements and CPSM requirements, the agency may bid the project. If the low bid is equal to or less than the Agency's construction estimate and the "Approval to Award Contract" Form CO-8 has been approved (when applicable for capital projects), the agency may award the construction contract to the low responsive and responsible bidder. At this point the agency applies for the building permit (prior to commencement of construction.)

The agency creates the building permit application form in BITS (Building Information Tracking System.) BITS is a web-based DGS computer application used for processing capital outlay (CO) forms and building official (BO) forms. It is accessible to agency personnel only. To create a new building permit application, the agency opens the BITS Forms Home Page. From the drop down menu under "Add New Empty Form", the agency selects "Form CO-17 Building Permit for Construction."

The agency completes the building permit information applicable to the project by selecting each tab in the form and inputting the information in the blanks. There are seven (7) active tabs in the building permit application: "Project/Form", "Building", "Systems/Shop/Convey", "Key Dates/Addenda", "Contacts", "Attachments", and "BO Action":



"Project/Form": This tab contains basic project information such as Agency name, project title, project code, location, project type, procurement method, etc. The agency project manager should have access to all required information. There are several boxes for "comments" – these are communication tools and do not print on the building permit.

"**Building**": The information required for this tab includes applicable codes and references, building code data and basic structural data. This information is found in the construction documents, typically on the Title Sheet and the first page of the structural drawings.

Building code data includes occupant load, occupancy groups, type of construction, building height, number of stories and area. Required structural information includes wind speed, floor live loads, roof live load, seismic criteria and soil bearing. For projects such as mechanical or electrical renovation projects, it may be appropriate to select N/A (not applicable) for much of the building code data and structural information.

A drop down menu allows selection of the compliance path for meeting the High Performance Buildings Act, if applicable. Compliance options are LEED Certified, Green Globes Two Globes, and VEES (Virginia Energy and Environmental Standards.)

Data required for "Code Modifications Issued" is entered by BCOM.

"Systems/Shop/Convey": The information required identifies whether there is a new fire protection system (fire suppression, fire detection and alarm, or security system) or there are changes to any of the existing fire protection systems. Information about fire protection systems is included on Fire Protection Information Plans in the construction documents. If the project scope of work does not include any changes to an existing fire suppression, fire alarm and/or security system, then the "N/A" box for each system shall be checked.

The three boxes under "Shop Drawing Approvals" are completed by BCOM.

Information about new or existing conveying systems (elevators, lifts, escalators, etc.) and how many of each can typically be found on the architectural floor plans of the construction documents.

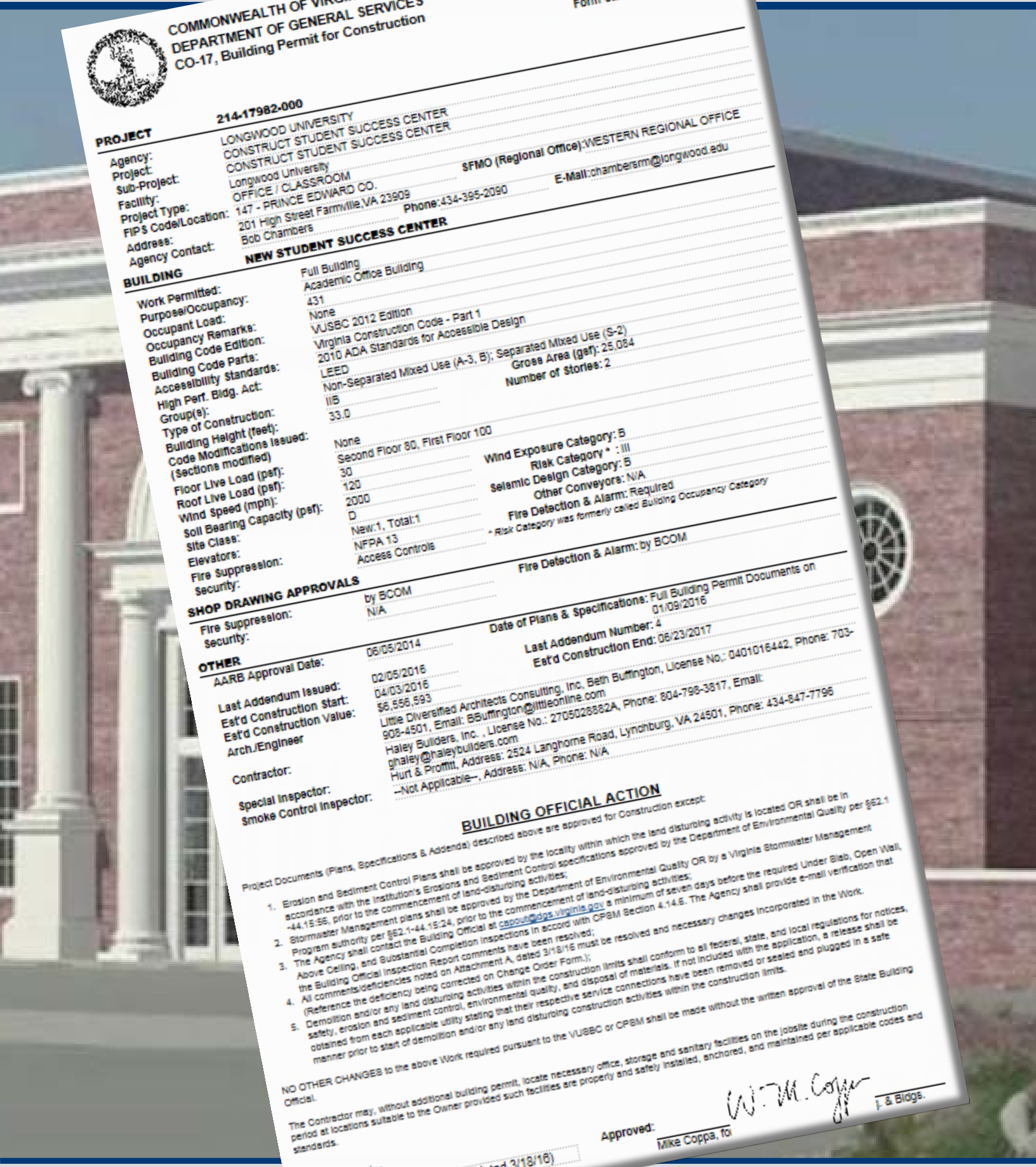
"Key Dates/Addenda": This tab includes the date of AARB approval, the date of the "Final" plans and specifications (known as "Contract Documents"), estimated construction start and completion dates, estimated construction value, and addenda dates, if applicable.

All new buildings, additions to existing buildings and any other new elements on state property, regardless of the funding source must be reviewed and approved by AARB (Art and Architectural Review Board.) The date of the AARB's approval of the project design is input in this tab.

All drawing and specifications submitted in support of application for building permit shall bear the Virginia professional seal(s) of an individual(s) responsible for its design. Final documents are required to display signed and dated professional seals. The date of the signed seals is the "date" to enter for "date of plans and specifications. Dates on all seals in the final construction documents shall be the same consistent date as the date on the drawings and project manual.

Enter the "estimated construction start date" and the "estimated construction completion date." The "estimated construction value" can be obtained by the agency from the contractor's bid.

The number of addenda issued and the date of the most recent addendum are required to be entered in this tab. If addenda are listed on the building permit application but have not been submitted to BCOM, a building permit will not be issued until BCOM reviews and approves all addenda. Be sure that all addenda include the 11 digit project code and the seal of the responsible licensed professional, signed and dated to match the date of the addendum.



COMMONWEALTH OF VIRGINIA
DEPARTMENT OF GENERAL SERVICES
CO-17, Building Permit for Construction

Issued: 03/18/2016
Expires: 06/23/2017
Form Status: APPROVED

PROJECT 214-17982-000

Agency: LONGWOOD UNIVERSITY
Project: CONSTRUCT STUDENT SUCCESS CENTER
Sub-Project: CONSTRUCT STUDENT SUCCESS CENTER
Facility: Longwood University
Project Type: OFFICE / CLASSROOM
FIP'S Code/Location: 147 - PRINCE EDWARD CO.
Address: 201 High Street Farmville,VA 23909
Agency Contact: Bob Chambers
Phone:434-395-2090
SFMO (Regional Office):WESTERN REGIONAL OFFICE
E-Mail:chambersrm@longwood.edu

BUILDING NEW STUDENT SUCCESS CENTER

Work Permitted: Full Building
Purpose/Occupancy: Academic Office Building
Occupant Load: 431
Occupancy Remarks: None
Building Code Edition: VUSBC 2012 Edition
Building Code Parts: Virginia Construction Code - Part 1
Accessibility Standards: 2010 ADA Standards for Accessible Design
High Perf. Bldg. Act: LEED
Group(s): Non-Separated Mixed Use (A-3, B); Separated Mixed Use (S-2)
Type of Construction: IIB
Building Height (feet): 33.0
Gross Area (gsf): 25,084
Number of Stories: 2
Code Modifications Issued: None
(Sections modified) Second Floor 80, First Floor 100
Floor Live Load (psf): 30
Roof Live Load (psf): 120
Wind Speed (mph): 2000
Soil Bearing Capacity (psf): D
Site Class: New:1, Total:1
Elevators: NFPA 13
Fire Suppression: Access Controls
Security:
Wind Exposure Category: B
Risk Category * : III
Seismic Design Category: B
Other Conveyors: N/A
Fire Detection & Alarm: Required
* Risk Category was formerly called Building Occupancy Category

SHOP DRAWING APPROVALS

Fire Suppression: by BCOM
Security: N/A
Fire Detection & Alarm: by BCOM

OTHER

AARB Approval Date: 06/05/2014
Date of Plans & Specifications: Full Building Permit Documents on 01/09/2016
Last Addendum Issued: 02/05/2016
Last Addendum Number: 4
Est'd Construction Start: 04/03/2016
Est'd Construction End: 06/23/2017
Est'd Construction Value: $6,556,593
Arch./Engineer: Little Diversified Architects Consulting, Inc, Beth Buffington, License No.: 0401016442, Phone: 703-908-4501, Email: BBuffington@littleonline.com
Contractor: Haley Builders, Inc. , License No.: 2705028862A, Phone: 804-798-3817, Email: ghaley@haleybuilders.com
Special Inspector: Hurt & Proffitt, Address: 2524 Langhorne Road, Lynchburg, VA 24501, Phone: 434-847-7796
Smoke Control Inspector: --Not Applicable--, Address: N/A, Phone: N/A

BUILDING OFFICIAL ACTION

Project Documents (Plans, Specifications & Addenda) described above are approved for Construction except:

1. Erosion and Sediment Control Plans shall be approved by the locality within which the land disturbing activity is located OR shall be in accordance with the Institution's Erosions and Sediment Control specifications approved by the Department of Environmental Quality per §62.1-44.15:56, prior to the commencement of land-disturbing activities;
2. Stormwater Management plans shall be approved by the Department of Environmental Quality OR by a Virginia Stormwater Management Program authority per §62.1-44.15:24, prior to the commencement of land-disturbing activities;
3. The Agency shall contact the Building Official at csposh@dgs.virginia.gov a minimum of seven days before the required Under Slab, Open Wall, Above Ceiling, and Substantial Completion inspections in accord with CPSM Section 4.14.6. The Agency shall provide e-mail verification that the Building Official Inspection Report comments have been resolved;
4. All comments/deficiencies noted on Attachment A, dated 3/18/16 must be resolved and necessary changes incorporated in the Work. (Reference the deficiency being corrected on Change Order Form.);
5. Demolition and/or any land disturbing activities within the construction limits shall conform to all federal, state, and local regulations for notices, safety, erosion and sediment control, environmental quality, and disposal of materials. If not included with the application, a release shall be obtained from each applicable utility stating that their respective service connections have been removed or sealed and plugged in a safe manner prior to start of demolition and/or any land disturbing construction activities within the construction limits.

NO OTHER CHANGES to the above Work required pursuant to the VUSBC or CPSM shall be made without the written approval of the State Building Official.

The Contractor may, without additional building permit, locate necessary office, storage and sanitary facilities on the jobsite during the construction period at locations suitable to the Owner provided such facilities are properly and safely installed, anchored, and maintained per applicable codes and standards.

Approved: W.T.M. Coppa Jr. & Bldgs.
Mike Coppa, for

Attachments:
214-17982-000 Attachment A (dated 3/18/16)

"Contacts": This tab includes contact information for the agency, A/E, contractor, special inspector and smoke control special inspector. Provide the following information:

1. Agency contact name with their direct phone number and email. This should be the agency representative who has day-to-day contact with BCOM for the project.
2. Architectural/engineering firm name, contact name of Registered Design Professional (RDP) who's Virginia "license number" (issued by the Department of Professional and Occupational Regulation, DPOR) is listed. Include the direct phone number and email of the individual.
3. Contracting firm's name and the firm's Virginia contracting license number (issued by DPOR.) Include the direct phone number and email of the person responsible for the project on a day-to-day basis.
4. Special Inspector contact information is required if Forms CO-6a and CO-6b are required for the project. Include the special inspection firm's name, address, and phone number.
5. A Smoke Control Special Inspector is required for projects that require a smoke control system. Include the firm's name, address and phone number.

The **"Attachments"** tab and **"BO Action"** tab are completed by BCOM.

It is recommended that the building permit application be saved frequently as information is being added. Once the information is complete, select "Save data and submit for agency approval." The form advances to BCOM's "step" for processing and approval by the State Building Official. Contact your BCOM lead reviewer with any questions.

After BCOM processes the building permit and it is reviewed and approved by the State Building Official, a BITS web-link to the approved building permit is emailed to the Agency contacts and State Fire Marshal. The building permit can be downloaded and printed (either as a hard copy or PDF.)

Depending on the character of work, an agency with Annual Permit Authority may issue project permits, as defined in CPSM Appendix P. VCC Section 108.2 *Exemptions from application for permit* and Appendix P also define when a building permit is not required.

For additional information about building permits, refer to CPSM Appendix P- *"Building Permit Policy for Construction, State Owned Buildings & Structures", and 2012 Virginia Construction Code, Section 108 "Application for Permit".* ❑

VCCO Update

The following individuals recently passed the Virginia Construction Contracting Officer (VCCO) certification examination:

- **Mark Snodgrass** with the Woodrow Wilson Rehabilitation Center (WWRC)
- **Lt. Col. Daren Payne** with the Virginia Military Institute (VMI)

Virginia Construction Contracting Officers are state and local government employees who have completed the necessary training and successfully passed a multi-part examination focused on state procurement law, policy and procedures. VCCOs perform several keys functions in delivering projects including the procurement of professional services; the receipt, opening and review of bids; and in some cases the approval of CO-8 forms for recommending the award of construction contracts. ❑