Department of War
Washington Headquarters Services
Facilities Services Directorate

WASHINGTON HEADQUARTERS SERVICES BUILDING CODE

Prepared by:

Facilities Services Directorate
Standards and Compliance Division

2026 Edition (Effective January 1, 2026)
Replaces 2024 Edition (January 1, 2024)

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WASHINGTON HEADQUARTERS SERVICES BUILDING CODE (WHSBC)
REVISION SUMMARY SHEET

Subject: WHSBC, Washington Headquarters Services Building Code, 2026 Edition, January 1, 2026

Superseding: WHSBC 2024 Edition, dated January 1, 2024

Description of Change: The 2026 Edition incorporates proposed revisions to the WHSBC based on proposals and comments received during the January 2024-July 2025 code review cycle. The WHSBC supplements UFC 1-200-01, DoD Building Code, Change 4, dated 17 December, 2024

Reasons for Change: This change is in response to user input requesting clarification, tightening, and further definition of code requirements.

Impact: Changes include the following:

1. Editorial changes/corrections, elimination of repeated/duplicate requirements, reference updates, and overall alignment with Unified Facilities Criteria and International Building Code language.
2. Content changes based on proposals received during the 2024-2025 code review cycle, which were documented in the Report on Proposals. A summary of changes is provided below.
    a. Clarification on the Effective Date of the WHSBC
    b. Elimination of Building Code Permit and Certification of Occupancy application process.
    c. Increased specificity on DD Form 1354 requirements.
    d. Allowance of sprinkler small room rule and clarification on photolum requirements.
    e. Clarification on water and energy metering requirements and better alignment of requirements within code.
    f. General cleanup of Section 227 - Electrical. Additional changes include:
        - New requirements for building management approval for new electrical equipment locations and installations.
        - Prohibition of general-purpose (convenience) outlets from being on the same circuits as mission-essential circuits.
        - Clarification on interior and exterior lighting correlated color temperature (CCT) requirements.
        - Prohibition of T-LEDs and fluorescent lamps.
        - Prohibition of wall-mounted occupancy/vacancy sensors and clarification on ceiling mounted sensor requirements.
    g. Clarification of terminal unit sensor requirements in alignment with FSD Standardized BACnet Conversion Strategy

Revision Process: The WHSBC is revised on a biennial basis. The procedure for revising the WHSBC is included in Appendix C.

History: The WHSBC was developed to reflect the mission, infrastructure, and capabilities of WHS owned and operated properties in the National Capitol Region. As such, the WHSBC:

1. Incorporated all applicable sections of UFC 1-200-01, including references to other UFC codes, the International Codes, and National Fire Protection Association (NFPA) Codes,
2. Removed Military Department, Defense Agency, and DoW Field Activity specific requirements, incorporating singular WHS requirements,
3. Amended requirements to reflect WHS mission capabilities, and
4. Supplemented UFC 1-200-01 with additional sections to provide further guidance regarding procedures and requirements within WHS.

The existing UFC guidance was inadequate for the following reasons:

- UFC 1-200-01, predecessor to this WHSBC, was intended to be applicable to the Military Departments, the Defense Agencies, and the Department of War (DoW) Field Activities for use in permanent, semi-permanent and temporary construction supporting their mission both nationally and abroad.
- Washington Headquarters Services (WHS) is a DoW Field Activity that serves multiple Military Departments, Defense Agencies, and DoW Field Activities within its facilities. WHS uniformly applies military criteria in the construction of its facilities.

Revision 1.5, dated June 1, 2013 incorporated proposed revisions to the WHSBC based on proposals and comments received during the July 2012 – December 2012 code review cycle.

Revision 1.6, dated June 20, 2013 updated the WHSBC to reflect modifications required by the release of UFC 3-600-01, 26 September 2006 edition Change 3 dated 1 March 2013. This revision clarified many of the requirements pertaining to previous UFC 3-600-01 editions. Revisions included sprinkler design criteria, SCIF criteria, and telecommunication facility criteria among others.

Revision 2.0, dated January 1, 2014 incorporated revisions to the WHSBC based on proposals and comments received during the January 2013- July 2014 code review cycle.

Revision 3.0, dated January 1, 2015, incorporated revisions to the WHSBC based on proposals and comments received during the January 2014-July 2014 code review cycle.

Revision 4.0, dated January 1, 2016, incorporated revisions to the WHSBC based on proposals and comments received during the January 2015-July 2015 code review cycle.

Revision 5.0, dated January 1, 2017, incorporated revisions to the WHSBC based on proposals and comments reviewed during the January 2016-July 2016 revision cycle.

Revision 6.0, dated January 1, 2018 incorporated proposed revisions to the WHSBC based on proposals and comments received during the January 2017-July 2017 code review cycle.

Revision 6.1, dated June 1, 2018 updated the WHSBC to reflect modifications to UFC 3-600-01, 8 August 2016 edition Change 2, dated 25 March 2018. This revision included section number changes and a few fire protection content updates.

Revision 7.0, dated January 1, 2019 incorporated revisions to the WHSBC based on proposals and comments received during the January 2018-July 2018 code review cycle.

2020 Edition, dated February 18, 2020 incorporated revisions to the WHSBC based on proposals and comments received during the January 2019-July 2019 code review cycle.

2022 Edition, dated February 1, 2022 incorporated revisions to the WHSBC based on proposals and comments received during the January 2022-July 2023 code review cycle.

2024 Edition, dated January 1, 2024 incorporated revisions to the WHSBC based on proposals and comments received during the January 2024-July 2025 code review cycle.

Marginal Markings - Solid vertical lines in the margins within the body of the code indicate a technical change from the previous version of the code. Deletion indicators in the form of a bullet (●) are provided in the margins where an entire section, paragraph, exception, or table has been deleted.

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100.0 ADMINISTRATION

Note: Web links are provided in this document for the convenience of the user and are current at the time the primary revision is published. The WHSBC Technical Committee does not periodically confirm these links during the life-cycle of the code to include minor revisions, if any. The user is encouraged to verify all referenced documentation directly with the publishing agency or organization.

101.0 GENERAL

101.1 Title.

These regulations shall be known as the Washington Headquarters Services Building Code (WHSBC), hereinafter referred to as "this code."

101.2 Scope.

The provisions of this code shall apply to the planning, design, construction, sustainment, restoration, and modernization of every building or structure or any appurtenances connected or attached to such buildings or structures on all Washington Headquarters Services (WHS) owned properties (excluding Site R). This code is applicable to all methods of project delivery, including both design-bid-build and design-build.

101.2.1 Areas Not Addressed: The WHSBC does not address the following:

101.2.1.1 Computer Network Systems

101.2.1.2 Collective Protection Systems

101.2.1.3 *Chemical, Biological, Radiological Detection Systems

101.2.1.4 Security Systems

101.2.2 Appendices and Attachments.

101.2.2.1 Attachments - Attachments are considered part of the code and are fully enforceable as such.

101.2.2.2 Appendices - Provisions in the appendices shall not apply unless specifically adopted herein.

101.3 Purpose.

The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, physical security and general welfare through structural strength, means of egress facilities, stability, sanitation, adequate lighting and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment and to provide safety to fire fighters and emergency responders during emergency operations. No construction, alteration, or repair shall reduce the level of fire protection or life safety provided by existing conditions unless approved by the AHJ.

Department of Defense Directive 4270.5 prescribes that the Unified Facilities Criteria (UFC) and the Unified Facilities Guide Specifications (UFGS) (see Appendix D) be used to the greatest extent possible by all Department of Defense (DoD) Components for planning, design, and construction (i.e. restoration and modernization) of facilities, regardless of funding source. The WHSBC incorporates UFC 1-200-01 for all buildings/structures/appurtenances falling within the scope of this document. To remain in compliance with DODD 4270.5, the WHSBC:

1. Incorporates all applicable sections of UFC 1-200-01, including references to other UFC codes, the International Codes, and National Fire Protection Association (NFPA) Codes,

2. Removes Military Department, Defense Agency, and DoD Field Activity specific requirements, incorporating singular WHS requirements,
3. Amends requirements to reflect WHS mission capabilities, and
4. Supplements UFC 1-200-01 with additional sections to provide further guidance regarding procedures and requirements within WHS.
5. Adopts the Pentagon Facility Guide Specifications (PFGS) (see Section 310.0) for the Pentagon Campus which takes precedence over any guidance found within the UFGS.

Washington Headquarters Services is a Department of Defense Field Activity, created on October 1, 1977 to supply services common to more than one DoD component or military department. WHS is an essential capabilities provider that enables the Secretary of Defense, Senior DoD Leadership, and their staffs to fulfill the mission of the Department. WHS provides consolidated administrative and operational support to several Defense Agencies, DoD Field Activities, the headquarters and various elements of the military departments, the President, and to some degree, Congress. As the Pentagon is the headquarters for the Department of Defense, additional clarification is provided for provisions in the UFC that are geared toward the individual armed services. "Code plus" enhancements are documented in each section of this code to identify areas where a greater degree of protection is warranted based on the mission and inherent risks present within WHS facilities. National Fire Protection Association codes and standards form the basis of all fire and life safety requirements.

101.4 Referenced Codes

Except as indicated below, use the edition of the International Building Code (IBC) and the International Existing Building Code (IEBC) as adopted by the latest edition of UFC 1-200-01, including all published errata, as modified by Sections 200 and Sections 300 of this code, as the building code for WHS.

101.4.1 Replace the first bullet in UFC 1-200-01, Section 1-6.2 with the following:

- All references in the International Code to the International Fuel Gas Code (IFGC) shall also be considered references to NFPA 54 (ANSI Z223.1) and NFPA 58. Where International Fuel Gas Code requirements are more stringent than the NFPA 54 and NFPA 58, those IFGC requirements shall apply unless otherwise noted herein.

101.4.2 Unless specifically addressed within this code, where conflicts arise between codes referenced herein, the more stringent requirement applies. For conflicts where neither option is more stringent, consult the Building Code Official (BCO) for direction.

101.5 Acronyms and Definitions.

101.5.1 **AHJ** – Authority Having Jurisdiction (see definition below)

101.5.2 **Alteration** – See definition for modification.

101.5.3 **Approving Authority** – The individual responsible for reviewing permit applications and issuing final authority to begin work under such permit.

101.5.4 **Authority Having Jurisdiction (AHJ)** – The individual responsible for approving equipment, materials, an installation, or a procedure. The WHS AHJ is the Director, Facilities Services Directorate.

101.5.5 **BCO** – Building Code Official (see definition below)

101.5.6 ***Building Code Official (BCO)** – A division, office, or individual designated by the AHJ to serve as a representative for the AHJ. The BCO's powers and responsibilities are defined and limited herein.

101.5.7 **C-CUT** – Center Courtyard Utility Tunnel

101.5.8 **CFR** – Code of Federal Registrar

101.5.9 ***Change of Use** – A change in the purpose or level of activity within a structure or space that involves a change in application of the requirements of the WHSBC.

101.5.10 **CMD** – Construction Management Division, a division within FSD

101.5.11 **Code Departure** – A deviation from code granted for a "zero risk" condition.

101.5.12 **Code Waiver** – An exception to code granted for extenuating circumstances of impact to historic preservation, excessively high cost, and/or major constructability difficulties.

101.5.13 **Component Fire Protection Engineer (CFPE)** – See UFC 3-600-01, Section 2-1.4. For WHS properties, the CFPE is the Office of the Pentagon Fire Marshal.

101.5.14 **Construction Manager (CM)** – An individual assigned, as required, to assist the Project Manager in managing the physical construction aspects of a project. The CM has authority as delegated by the PM.

101.5.15 **Construction, Permanent** – Buildings and facilities designed and constructed to serve a life expectancy of more than 25 years.

101.5.16 **Construction, New** – The building of something, primarily a structure, but also the infrastructure built in support of that structure that was not previously in existence.

101.5.17 **Construction, Semi-Permanent** – Buildings and facilities designed and constructed to serve a life expectancy of more than five years but less than 25. This construction level is typically only used to support military operations. Expediency of construction and material availability may be a factor. Facility is intended for a more enduring presence with operational characteristics and functional performance similar to permanent construction. Maintainability of finishes and systems shall be commensurate with the facility life expectancy and available maintenance capabilities. A moderate level of energy and water efficiency shall be considered.

101.5.18 **Construction, Temporary** – Buildings and facilities designed and constructed to serve a life expectancy of five years or less using low-cost construction. Temporary construction typically cannot be economically converted to a higher construction level. Temporary facilities have limited flexibility for conversion and re-use.

101.5.19 **COR** – Contracting Officer's Representative

101.5.20 **DoD** – Department of Defense

101.5.21 **DTIC** – Defense Technical Information Center

101.5.22 **Electrical Rooms** – Rooms that contain dry-type transformers, switchgear, lighting and power panels and/or other like electrical equipment.

101.5.23 **ECD** – Engineering and Construction Division, a division within FSD

101.5.24 **ECRB** – Environmental Compliance and Resiliency Branch, a branch within SCD

101.5.25 **EPA** – Environmental Protection Agency

101.5.26 **FOG** – Facilities Operations Group

101.5.27 **FOSD** – Facilities Operations and Services Division, a division within FSD

101.5.28 **FRCS** – Facility Related Control Systems

101.5.29 **FSD** – Facilities Services Directorate, a directorate within WHS

101.5.30 **HEPA Filter** – High Efficiency Particulate Air filter equivalent to ASHRAE MERV 17.

101.5.31 **HMI** – Human Machine Interface

101.5.32 **HRP** – Heating and Refrigeration Plant

101.5.33 **IBC** – International Building Code

101.5.34 **IEBC** – International Existing Building Code

101.5.35 **IFC** – International Fire Code

101.5.36 **IFGC** – International Fuel Gas Code

101.5.37 **IMC** – International Mechanical Code

101.5.38 **IPC** – International Plumbing Code

101.5.39 **ITD** – Integrated Technology Division, a division with FSD

101.5.40 **Kitchen** – A room with four walls that is equipped for preparing and cooking food according to health regulations.

101.5.41 **Kitchenette** – A space with walls constructed on three sides generally with cabinets fastened to the wall, all appliances fixed, may have a sink, but does not have a stove.

101.5.42 **KO** – Contracting Officer

101.5.43 **LPG** – Liquefied Petroleum Gas

101.5.44 **MCC** – Mark Center Campus

101.5.45 **MEF** – Metro Entrance Facility

101.5.46 **MERV** – Minimum Efficiency Reporting Value

101.5.47 **MOC** – Modular Office Complex, facility in North Village

101.5.48 ***Modification** – The reconfiguration of any space; the addition, relocation, or elimination of load-bearing elements; the reconfiguration or extension of any system; or the installation of any additional equipment.

101.5.49 **NRTL** – Nationally Recognized Testing Laboratory. An independent third-party organization recognized by the Occupational Safety & Health Administration to provide evaluation, testing and certification of products.

101.5.50 **OPFM** – Office of the Pentagon Fire Marshal, a branch within SCD

101.5.51 **OSHA** – Occupational Safety and Health Administration

101.5.52 **OSHB** – Occupational Safety and Health Branch, a branch within SCD

101.5.53 **Pantry** – A dedicated cubicle that is used for food storage and coffee making and has no other office use (i.e. no computer/printer/paper or office supplies).

101.5.54 **Pentagon** – Portions of the Pentagon Reservation contiguous to the original 1943, 5 sided structure. References to the Pentagon include floors above and below grade including the basement and mezzanine levels. References to Pentagon do not include the MEF, RDF or PLCC.

101.5.55 ***Pentagon Campus** – Portions of the Pentagon Reservation that includes the Pentagon and all buildings located on the same immediate property as the Pentagon.

101.5.56 **Pentagon Reservation** – All buildings on the Pentagon Campus and Mark Center Campus.

101.5.57 **PERC** – Pentagon Emergency Response Center

101.5.58 **PFGS** – Pentagon Facility Guide Specifications

101.5.59 **Permit Holder** – Individual or entity holding an approved permit to conduct work on equipment, space or property under the jurisdiction of this code.

101.5.60 **PFPA** – Pentagon Force Protection Agency, a field agency of the Department of Defense

101.5.61 **PLCC** – Pentagon Library and Conference Center

101.5.62 **PM** – Project Manager (see definition below)

101.5.63 **POC** – Pentagon Operations Center

101.5.64 **Project** – One time efforts to design and construct real property improvements (new construction, renovations, modifications, or alterations to existing real property), systems of physical or virtual improvements, testing or validation of equipment, or any other program that will be coordinated with multiple stakeholders. This umbrella document is applicable to all efforts to improve the Pentagon Reservation, not solely for construction projects.

101.5.65 ***Project Manager (PM)** – The lead agent responsible for design and execution.

101.5.66 **PSOC** – Pentagon Support Operations Center

101.5.67 **RDF** – Remote Delivery Facility

101.5.68 ***Real Property** – Land and improvements to land, buildings, structures, and linear structures (utilities/pavements), and includes equipment affixed and built into the facility as in integral part of the facility.

101.5.69 **REO** – Reservation Engineering Operations, a subset of FOG

101.5.70 ***Renovation** – The replacement in kind, strengthening, or upgrading of building elements, materials, equipment, or fixtures, that does not result in a reconfiguration of the buildings spaces within.

101.5.71 ***Repair** – The patching, restoration, or painting of materials, elements, equipment, or fixtures for the purpose of maintaining such materials, elements, or fixtures in good or sound condition.

101.5.72 **RPAM** – Real Property Asset Management

101.5.73 **SBCO** – Sub-Building Code Official (see definition below)

101.5.74 **SCADA** – Supervisory Control and Data Automation

101.5.75 **SCD** – Standards and Compliance Division, a division within FSD

101.5.76 **SCIF** – Sensitive Compartmented Information Facility

101.5.77 **SMOC** – Secure Modular Office Complex, facility in North Village

101.5.78 **SSD** – Security Services Directorate, a directorate within PFPA

101.5.79 **Sub-Building Code Official (SBCO)** – A designated subset of the Building Code Official in a designated area.

101.5.80 **UFGS** – Unified Facilities Guide Specifications

101.5.81 **VADEQ** – Virginia Department of Environmental Quality

101.5.82 **WHS** – Washington Headquarters Services, a field activity of the Department of Defense

101.5.83 **WHSBC** – Washington Headquarters Services Building Code

101.5.84 **WHSFR** – Washington Headquarters Services Fire Regulations

101.5.85 **WHS OGC** – DoD/WHS Office of the General Counsel

101.5.86 **Wireless** – The ability to connect or communicate with a device over the absence of a physical media connection.

102.0 APPLICABILITY

102.1 General.

Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive provision shall govern.

102.2 Other Laws.

The provisions of this code shall not be deemed to nullify any provisions of federal, state, regional, or local laws; Executive Orders; or DoD Issuances.

102.3 Application of References.

References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapters, sections or provisions of this code.

102.4 Referenced Codes and Standards.

The codes and standards referenced in this WHSBC shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

102.5 Partial Invalidity.

In the event that any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions.

102.6 Existing Structures.

The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as specifically covered in this code, the Washington Headquarters Services Fire Regulations (WHSFR), or as is deemed necessary by the Authority Having Jurisdiction (AHJ) for the general safety and welfare of the occupants and public as well as physical security.

102.7 Effective Date.

The requirements of this code edition shall be effective 30 days upon adoption of this code by the Director, Facilities Services Directorate, Washington Headquarters Services. This date shall be known as the 'Effective Date'. The applicable edition of this code and Unified Facilities Criteria for a project shall be in accordance with UFC 1-200-01, Section 1-3, Applicability.

103.0 STANDARDS AND COMPLIANCE DIVISION

103.1 Oversight and Enforcement.

The responsibility for oversight and enforcement of the WHSBC shall reside in the Standards and Compliance Division (SCD) of the Facility Services Directorate (FSD). The official responsible for enforcement and implementation of the WHSBC shall be known as the Building Code Official (BCO).

103.2 *Appointment.

The BCO shall be appointed by the AHJ.

103.3 Sub-Building Code Official.

In accordance with the prescribed procedures and with the concurrence of the AHJ, the BCO shall have the authority to appoint sub-building code officials (SBCOs), the related technical officers, inspectors, plan examiners, safety officers and other employees. Such employees shall have powers as delegated by the BCO.

104.0 DUTIES AND POWERS OF THE AUTHORITY HAVING JURISDICTION AND THE BCO

104.1 General.

The BCO is hereby authorized and directed to enforce the provisions of this code. The BCO shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies, and procedures shall be in compliance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

104.2 Applications and Permits.

The BCO shall receive applications from the appropriate Document Control organization, review construction documents, and issue permits for the erection, alteration, demolition, and moving of buildings and structures; inspect the premises for which such permits have been issued; and enforce compliance with the provisions of this code.

104.3 Notices and Orders.

The BCO shall issue all necessary notices or orders to ensure compliance with this code through the COR/PM/KO to the contractor.

104.4 Inspections.

The BCO shall make all of the required code compliance inspections, or the BCO shall have the authority to accept reports of inspection by approved organizations or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved organization or by the responsible individual. The BCO is authorized to engage such expert opinion as deemed necessary to report upon unusual technical issues that arise, subject to the approval of the AHJ.

104.5 Identification.

The BCO and any designated representatives shall carry proper credentials when inspecting structures or premises in the performance of duties under this code.

104.5.1 The BCO shall be authorized to issue credentials for the designated representatives. The AHJ shall authorize the credentials for the BCO.

104.6 *Right of Entry.

The AHJ, or their designated representative, has the power to enter and examine WHS facilities to conduct inspections. Before entering, the AHJ shall obtain the consent of the DoD Component controlling or occupying the space, the Project Manager managing the construction site, or obtain authorization from the Director, WHS, except in those instances where an imminent danger to life or property exists. If such structure or premises is occupied, credentials must be presented to the occupant and entry requested. If such structure or premises is unoccupied, the AHJ shall first make a reasonable effort to locate the project manager or other person having charge or control of the structure or premises and request entry. If entry is refused, the AHJ shall have recourse to the remedies provided to secure entry.

104.7 Department Records.

The BCO shall keep official records of applications received, permits and certificates issued, reports of inspections, and notices and orders issued. Such records shall be retained in the official records for at a minimum the period required for retention of public records.

104.8 Reserved.

104.9 Approved Materials and Equipment.

104.9.1 Materials, equipment, and devices approved by the BCO shall be constructed and installed in accordance with such approval. Materials, equipment, and parts shall be of like quality, functionally compatible, and aesthetically equivalent to existing systems within the building.

104.9.2 Used Materials and Equipment.

The use of used materials which meet the requirements of this code for new materials is permitted. Used equipment and devices shall not be reused unless approved by the BCO.

104.10 Code Waivers and Departures.

Wherever there are practical difficulties involved in carrying out the provisions of this code, the AHJ and BCO shall have the authority to grant modifications for individual cases, upon application by the PM, provided the BCO shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such

modification does not lessen health, accessibility, life and fire safety, or structural requirements. The details of granting code waivers or departures shall be recorded and entered in the files of SCD.

104.10.1 Application Procedure.

104.10.1.1 Code Waivers.

104.10.1.1.1 A sample Waiver Request form is provided in Attachment 1 of this code. Completed form shall be submitted to SCD with all requisite attachments.

104.10.1.2 Code Departures.

104.10.1.2.1 A sample Departure Request form is provided in Attachment 2 of this code. Completed form shall be submitted to SCD with all requisite attachments.

104.10.2 Granting Authority.

104.10.2.1 *Code Waivers.

Only the AHJ has authority to grant code waivers.

104.10.2.2 Code Departures.

Code departures may be granted by either the BCO or the AHJ.

104.11 Alternative Materials, Design, and Methods of Construction and Equipment.

The provisions of this code are not intended to prevent the installation of any material nor to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design, or method of construction shall be approved where the BCO finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability, and safety.

104.11.1 Research Reports.

Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

104.11.2 Tests.

Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the BCO shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the BCO shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the appropriate Document Control for the period required for retention of public records.

104.12 Revisions to the WHSBC.

Revisions to the WHSBC shall occur as described in Appendix C of this document.

105.0 PERMITS

105.1 Required.

Prior to execution, permits and licenses will be required to ensure the work effort meets building codes and regulations and complies with any Federal, State, and municipal laws, codes, and regulations. Permits will also be required to facilitate transportation, disposal, and handling of hazardous waste, asbestos removal/abatement, PCBs, refrigerants, lead based paint, etc. These items must be properly manifested and coordinated through FSD. Any organization that intends to construct, enlarge, alter, repair, move, demolish, or change the occupancy of a WHS owned building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical, security, fire, life safety or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the BCO and obtain the required permit(s).
Required permits/approvals:

105.1.1 Air Quality Permit Review

105.1.1.1 Section 105.1.1 is included to assure that the requirements of the Clean Air Act are met.

105.1.1.2 When Required – Whenever the use of temporary generators and/or boilers for any activity, ceremony, special event or display are needed.

Contact must be made with the Environmental Compliance and Resiliency Branch (ECRB) at 703-693-3683 for a review and potential application.

105.1.1.3 Approving Authority – SCD/ECRB and Virginia Department of Environmental Quality (VADEQ)

105.1.1.4 Document Control – SCD/ECRB - If required, the Environmental Office will prepare and submit an application to the VADEQ on behalf of the submitter to obtain a temporary permit.

105.1.2 Antennas and Similar Devices Installation Application

105.1.2.1 Section 105.1.2 adopts by reference the latest edition of DD1494 – Application for Equipment Frequency Allocation as published by Facilities Operations Group (FOG). Additional information is available upon request at whs.specialevents@mail.mil.

105.1.2.2 When Required – Installation of any temporary or permanent roof penetrating equipment or radio frequency generating device.

105.1.2.3 Approving Authority – FOG

105.1.2.4 Document Control – FOG

105.1.3 Asbestos Control Permit

105.1.3.1 Section 105.1.3 adopts by reference the latest edition of the Asbestos Control Permit, as published by SCD/Occupational Safety and Health Branch (OSHB), on its website at https://www.whs.mil/services/safety under “OSHB Forms” under the delegated authority of the Director, FSD.

105.1.3.2 When Required – Any construction, alteration, repair, or modification work requiring access to and/or disturbance of existing asbestos materials.

105.1.3.3 Approving Authority – SCD/OSHB

105.1.3.4 **Document Control** – SCD/OSHB

105.1.4 **Building Code Permit**

105.1.4.1 Section 105.1.4 adopts a building code permit. The permit process is initiated by the submission of design drawings; a separate permit application form is not required. The WHS Building Code Permit is issued at the IFC phase once all comments are closed.

105.1.4.2 **When Required**: Any construction, alteration, modification, or change in occupancy being completed on property under the jurisdiction of this code that is not listed in Section 105.2.

105.1.4.3 **Approving Authority** – SCD/BCO

105.1.4.4 **Document Control** – SCD/BCO

105.1.5 **Cable Pulling Permit**

105.1.5.1 Section 105.1.5 adopts by reference the latest edition of the Cable Pulling Permit, as published by FOG. Additional information is available upon request by contacting whs.specialevents@mail.mil.

105.1.5.2 **When Required** – Cable pulling installations in above-ceiling, FOG or publicly held spaces.

105.1.5.3 **Approving Authority** – FOG

105.1.5.4 **Document Control** – FOG

105.1.6 **Confined Space Permit**

105.1.6.1 Section 105.1.6 adopts by reference the latest edition of the Confined Space Entry Permit, as published by the SCD/OSHB, under "Confined Space Program" on its website at https://www.whs.mil/services/safety under the delegated authority of the Director, FSD.

105.1.6.2 **When Required** – For any work that requires an individual to enter a confined space, supervise an entry, or approve an entry.

105.1.6.3 **Approving Authority** – SCD/OSHB

105.1.6.4 **Document Control** – SCD/OSHB

105.1.7 **Excavation Permit**

105.1.7.1 Section 105.1.7 adopts by reference the latest edition of the Excavation Permit, as published by the Integrated Technology Division (ITD). Additional information is available upon request by contacting whs.pentagon.fsd.mbx.ecd-cmd-excavation-permit@mail.mil.

105.1.7.2 **When Required** – For any work on the Pentagon Reservation that may disrupt underground communication or utility lines, or above ground rights of ways.

105.1.7.3 **Approving Authority** – ITD

105.1.7.4 **Document Control** – ITD

105.1.8 **Exhibits, Artwork, and Signs on the Pentagon Reservation**

105.1.8.1 Section 105.1.8 adopts by reference Administrative Instruction No. 103: Exhibits, Artwork, and Signs on the Pentagon Reservation, as published by the DA&M, on its website at http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/ai/a103p.pdf?ver=2017-07-17-143957-463 (See also Use of Space on Pentagon Reservation Permit)

105.1.8.2 **When Required** – Whenever exhibits, artwork, or signs are to be installed or modified.

105.1.8.3 **Approving Authority** – FOG

105.1.8.4 **Document Control** – FOG

105.1.9 **Fire Prevention Permit**

105.1.9.1 Section 105.1.9 adopts by reference the latest edition of the Fire Prevention Permit as published by OPFM under "Permits Section" on its website https://www.whs.mil/services/fire, under the delegated authority of the Director, FSD. This section also adopts by reference the latest edition of the WHS Fire Regulations, Chapter 5, as published by OPFM, under "WHS Fire Regulations" on its website at https://www.whs.mil/services/fire under the delegated authority of the Director, FSD and any permit required therein.

105.1.9.2 ***When Required** – Any work requiring the use, storage, or manipulation of flammable, combustible, or hazardous materials or the storage and handling of liquefied petroleum gases (LPG).

105.1.9.3 **Approving Authority** – SCD/OPFM

105.1.9.4 **Document Control** – SCD/OPFM

105.1.10 **Hot Work Permit (Welding, Cutting, or Brazing)**

105.1.10.1 Section 105.1.10 adopts by reference the latest edition of the Hot Work Permits. Hot Work permits are published by OPFM on its website at https://www.whs.mil/services/fire, under the delegated authority of the Director, FSD.

105.1.10.2 **When Required** – Any operation involving open flames or producing heat and/or sparks, hot slag, or dross. Hot work includes, but is not limited to, brazing, cutting, grinding, soldering, arc welding, work on a pipe that would conduct heat through a wall or in contact with a wall, or torch-applied roofing.

105.1.10.3 **Approving Authority** – SCD/OPFM

105.1.10.4 **Document Control** – SCD/OPFM

105.1.11 **Lead Work**

105.1.11.1 Section 105.1.11 adopts by reference the latest edition of the Lead policy chapter, as discussed by the SCD/OSHB, under "Policy Chapters – Chapter 21 Control of Lead Hazards" on its website at https://www.whs.mil/services/safety under the delegated authority of the Director, FSD and any permit required therein.

105.1.11.2 **When Required** – During the use, handling, and removal of materials containing lead.

105.1.11.3 **Approving Authority** – SCD/OSHB

105.1.11.4 **Document Control** – SCD/OSHB

105.1.12 **Roof Access Permit**

105.1.12.1 Section 105.1.12 adopts by reference the latest edition of the Roof Access Permit, as published by FOG. Additional information is available upon request by contacting whs.specialevents@mail.mil.

105.1.12.2 **When Required** – All work requiring access to the roof.

105.1.12.3 **Approving Authority** – FOG

105.1.12.4 **Document Control** – FOG

105.1.13 **Roof Hot Work Permit**

105.1.13.1 Section 105.1.13 adopts by reference the latest edition of the Roof Hot Work Permit, as published by FOG. Additional information is available upon request by contacting whs.specialevents@mail.mil.

105.1.13.2 **When Required** – Any roof operation involving open flames or producing heat and/or sparks, hot slag or dross. Hot Work includes, but is not limited to, brazing, cutting, grinding, soldering, arc welding, work on a pipe that would conduct heat through a wall or in contact with a wall, or torch-applied roofing.

105.1.13.3 **Approving Authority** – FOG

105.1.13.4 **Document Control** – FOG

105.1.14 **Stationary Lead-Acid Battery Systems Permit (Reserved)**

105.1.15 **Use of Explosives Permit**

105.1.15.1 Section 105.1.15 adopts by reference the latest edition of the Use of Explosives Permit, as published by FOG. Additional information is available upon request by contacting whs.specialevents@mail.mil.

105.1.15.2 **When Required** – All work requiring use or storage of explosives.

105.1.15.3 **Approving Authority** – FOG

105.1.15.4 **Document Control** – FOG

105.1.16 **Use of Space on the Pentagon Reservation Permit (to include land)**

105.1.16.1 Section 105.1.16 adopts by reference the latest edition of DD2798, as published by the DoD Forms Management Program on its website at http://www.esd.whs.mil/Portals/54/Documents/DD/forms/dd/dd2798.pdf, authority for which is granted by Title 32 of the Code of Federal Registrar (CFR) Part 234.3D.

105.1.16.2 **When Required** – Whenever events, installations, projects, etc. require use of FOG controlled or public spaces on WHS property. Use of equipment such as barbeque grills and open flames must be included in the Space Use Permit. Use of space permits are required for the following:

105.1.16.2.1 **Cable pulling** (See also Cable Pulling Permit in Section 105.1.5, above)

105.1.16.2.2 **Construction**

105.1.16.2.3 **Demolition of structures**

105.1.16.2.4 **Excavation** (See also Excavation Permit in Section 105.1.7, above)

105.1.16.2.5 **Flammable/combustible liquids storage** (See also Fire Prevention Permit in Section 105.1.9, above)

105.1.16.2.6 Gatherings such as meetings or parties in public areas

105.1.16.2.7 Moved structures

105.1.16.2.8 Open flames (See also Fire Prevention Permit in Section 105.1.9, above)

105.1.16.2.9 Project laydown and storage areas (See also Public Space Policy in Section 105.1.16, above)

105.1.16.2.10 Roof Work (See also Roof Access Permit in Section 105.1.12, above and Roof Hot Work Permit in Section 105.1.13, above)

105.1.16.2.11 Temporary Structures

105.1.16.2.12 Temporary Use of Equipment

105.1.16.2.13 Use of Explosives (See also Use of Explosives Permit in Section 105.1.15, above)

105.1.16.3 Approving Authority – FOG Special Events Office

105.1.16.4 Document Control – FOG Special Events Office

105.1.17 Utility Outage Permit

105.1.17.1 Section 105.1.17 adopts by reference the latest edition of the Utility Outage Permit, as published by Reservation Engineering Operations (REO), under the delegated authority of the Director, FSD. Forms can be obtained by contacting REO at 703-693-8084.

105.1.17.2 When Required – Whenever a utility outage (electrical, mechanical, plumbing, telecommunication, fire protection, etc.) is required to complete work on WHS property.

105.1.17.3 Approving Authority – REO

105.1.17.4 Document Control – REO

105.1.18 Utility Space Access Permit

105.1.18.1 Section 105.1.8 adopts by reference the latest edition of the Utility Space Access Permit, as published by REO, under the delegated authority of the Director, FSD. Forms can be obtained by contacting FOG at 703-697-7351.

105.1.18.2 When Required – Reserved

105.1.18.3 Approving Authority – FOG

105.1.18.4 Document Control – Reserved

105.2 Work exempt from permit.

Exemptions from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code.

105.2.1 Emergency repairs must meet all applicable WHSBC requirements.

105.2.2 Repairs.

Application or notice to the BCO is not required for ordinary repairs to structures, replacement of lamps, or the connection of approved portable electrical equipment to approved permanently installed receptacles. Such repairs shall not include the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or load-bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary repairs include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.

105.2.3 Cosmetic. (Reserved)

105.2.4 Movable Furniture. (Reserved)

105.3 Application for Permits.

See each specific permit for application instructions.

105.4 Validity of Permits.

The issuance or granting of a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code. Permits presuming to give authority to violate or cancel the provisions of this code shall not be valid. The issuance of a permit based on construction documents and other data shall not prevent the Approving Authority from requiring the correction of errors in the construction documents and other data. The Approving Authority is also authorized to prevent occupancy or use of a structure where in violation of this code.

105.5 Expiration.

Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within 180 days after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The Approving Authority is authorized to grant in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

105.6 Suspension or Revocation.

The Approving Authority is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any provisions of this code.

105.7 Placement of Permits.

The permit or copy shall be kept on the work site until the completion of the project.

106.0 FLOOR AND ROOF DESIGN LOADS

106.1 Live loads posted.

Where the live loads for which each floor or portion thereof of a commercial or industrial building are or have been designed to exceed 50 psf, such design live loads shall be conspicuously posted by the project manager in that part of each story in which they apply, using durable signs. It shall be unlawful to remove or deface such notices.

106.2 Issuance of certificate of occupancy.

A certificate of occupancy required by Section 111.0 shall not be issued until the floor load signs, required by Section 106.1, have been installed.

106.3 Restrictions on loading.

It shall be unlawful to place, or cause or permit to be placed, on any floor or roof of a building, structure or portion thereof, a load greater than is permitted by this code.

107.0 SUBMITTAL DOCUMENTS FOR BUILDING CODE PERMITS

107.1 General.

Submittal documents consisting of construction documents, statement of special inspections, geotechnical report, military real property forms, and other data shall be submitted as described herein. The construction documents shall be prepared by a registered design professional where required by this code and/or the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the BCO is authorized to require additional construction documents to be prepared by a registered design professional.

Exception: The BCO is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of construction documents is not necessary to obtain compliance with this code.

107.1.1 All project deliverables and data shall be submitted to the appropriate Document Control (as outlined in Section 105.0, above). The number of hard copy and electronic submittals of all design deliverables, coordination drawings, equipment submittals, Systems Operation Maintenance Manuals (SOMMs), O&M Manuals, and As-Built drawings as set by the individual Document Control group. Document Control will archive all applicable documents.

107.1.2 Basis of Design

Fire protection and life safety aspects of a Basis of Design document must follow the requirements for a Design Analysis as indicated in UFC 3-600-01.

107.1.3 Electronic Submission requirements

Construction documents shall comply with the latest Electronic Data Standards (EDS). The EDS is an attachment to the Pentagon Facilities Guidance Specifications and is available upon request from the Integrated Technology Division at 703-614-1200.

107.2 Construction documents.

Construction documents shall be in accordance with Sections 107.2.1 through 107.2.6. The BCO is authorized to waive or modify the requirement for a plan when the application for permit is for alteration or repair or when otherwise warranted.

107.2.1 Information on construction documents.

Construction documents shall be dimensioned and drawn upon suitable material. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the BCO.

107.2.2 Fire protection system shop drawings.

Shop drawings for the fire protection system(s) shall be submitted as required by Section 209.0 of this code. The construction documents and calculations shall be approved prior to the start of system installation or modifications. Shop drawings shall contain all information as required by Section 209.0 of this code.

107.2.3 Life safety plan.

The construction documents shall include a Life Safety Plan that shows in sufficient detail the location, construction, size, and character of all portions of the means of egress in compliance with the provisions of this code. This shall include but not be limited to the occupant load of all spaces by use, capacity of the corresponding egress components, number of exits and remoteness, and the arrangement of the means of egress as applicable (travel distances, common paths of travel, and dead-end conditions). Special locking features, if any, shall be clearly identified.

107.2.4 Exterior wall envelope.

Construction documents for all projects affecting or including exterior walls shall describe the exterior wall envelope in sufficient detail to determine compliance with this code. The construction documents shall provide details of the exterior wall envelope as required, including security/blast protection, flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves or parapets, means of drainage, water-resistive membrane, and details around openings. The construction documents shall include manufacturer's installation instructions that provide supporting documentation that the proposed penetration and opening details described in the construction documents maintain the security and weather resistance of the exterior wall envelope. The supporting documentation shall fully describe the exterior wall system which was tested, where applicable, as well as the test procedure used.

107.2.5 Site plan.

The construction documents submitted with the application for permit shall be accompanied by a site plan showing to scale the size and location of new construction and existing structures on the site, distances from lot lines, the established street grades and the proposed finished grades and, as applicable, flood hazard areas, floodways, and design flood elevations; and it shall be drawn in accordance with an accurate boundary line survey. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot. For alteration and renovation work that occurs entirely within the interior of an existing building footprint, an exterior site plan is not required.

107.2.5.1 Design flood elevations.

Where design flood elevations are not specified, they shall be established in accordance with IBC Chapter 16.

107.2.6 Materials.

Sufficient technical data shall be submitted to substantiate the proposed use of any material, equipment, device, or assembly and proof of performance for the use intended. Determination of any material, equipment, device, or assembly is based on (1) compliance with code, (2) items listed by nationally recognized independent testing laboratories, or (3) recommendations of architects and engineers.

107.3 Examination of documents.

The BCO shall examine or cause to be examined the accompanying submittal documents and shall ascertain by such examinations whether the construction indicated and described is in accordance with the requirements of this code.

107.3.1 Approval of construction documents.

When the BCO, designated representative or responsible party issues a permit, the construction documents shall be approved, in writing or by stamp, as "Reviewed for Code Compliance." One set of construction documents so reviewed shall be retained by Document Control. One set shall be returned to the applicant, be kept at the work site, and be open to inspection by the BCO, SBCO, or a duly authorized representative.

107.3.2 Reserved.

107.3.3 Phased approval.

The BCO is authorized to issue a building code permit for the construction of foundations or any other part of a building or structure before the construction documents for the whole building or structure have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for the foundation or other parts of a building or structure shall proceed at the holder's own risk with the building operation and without assurance that a permit for the entire structure will be granted.

107.3.4 Design professional in responsible charge.

107.3.4.1 General.

When it is required that documents be prepared by a registered design professional, the BCO shall be authorized to require the project manager to engage and designate on the building code permit application a registered design professional who shall act as the registered design professional in responsible charge. If the circumstances require, the PM shall designate a substitute registered design professional in responsible charge who shall perform the duties required of the original registered design professional in responsible charge. The BCO shall be notified in writing by the project manager if the registered design professional in responsible charge is changed or is unable to continue to perform the duties.

The registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.

107.3.4.2 Deferred submittals.

For the purposes of this section, deferred submittals are defined as those portions of the design that are not submitted at the time of the application and that are to be submitted to the BCO within a specified period. Deferral of any submittal items shall have the prior approval of the BCO. The registered design professional in responsible charge shall list the deferred submittals on the construction documents for review by the BCO. Documents for deferred submittal items shall be submitted to the registered design professional in responsible charge who shall review them and forward them to the BCO with a notation indicating that the deferred submittal documents have been reviewed and found to be in general conformance to the design of the building. The deferred submittal items shall not be installed until the deferred submittal documents have been approved by the BCO.

107.4 Amended construction documents.

Work shall be installed in accordance with the approved construction documents, and any changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.

107.4.1 *For minor changes, red-line drawings are acceptable.

107.4.2 Red-line drawings shall be based off of the final approved design drawings and shall accurately illustrate any and all field made changes.

107.4.3 The red-line drawings shall be at all inspections and incorporate all changes made to that point.

107.5 Retention of construction documents.

One set of approved construction documents shall be retained by the Document Control for a period of not less than 180 days from date of completion of the permitted work, or as required by federal laws, whichever is greater.

107.6 Real Property Asset Management (RPAM).

107.6.1 Real Property Accountability.

RPAM is responsible for the proper custody, safekeeping, efficient and effective use of all buildings, structures, utilities, improvements, and lands under the control of the WHS. Maintains a formal set of property accounting records that show, on a continuing basis, the item identification, gain, and loss, on-hand balance, conditions, and location of all real property. Ensures real estate actions are legally bound and documented with real estate instruments. Promotes sound and efficient practices of real property management practices and procedures.

107.6.2 All capital improvement and new construction projects costing $20,000 and greater require the submission of DD Form 1354, Transfer and Acceptance of Military Real Property (Available at https://www.esd.whs.mil/portals/54/documents/dd/forms/dd/dd1354.pdf), provided to the FSD Real Property Officer, in accordance with UFC 1-300-08, Criteria for Transfer and Acceptance of Military Real Property.

107.6.3 Three DD Form 1354s will be submitted; Draft, Interim and Final.

107.6.3.1 Draft.

107.6.3.1.1 The Draft DD Form 1354 shall be completed no later than 30 days after project award to ensure the level of detail and the different components of a project are explained.

107.6.3.1.2 The level of detail shall include the category code number for the project i.e., administrative space, dining facility, sidewalk, exterior lighting etc., with costs and units of measure broken out accordingly. WHS uses DA PAM 415-28 list of category codes and descriptions.

107.6.3.2 Interim.

107.6.3.2.1 *The Interim DD Form 1354 shall be completed no later than 30 days prior to the building occupancy date.

107.6.3.2.2 The interim form submission shall include actual costs that have been expended to date as well as the following supporting documentation:

Work orders, DD Form 1391 (MILCON only)
Contract, modifications
Statement of work (dollar amounts, location, source of funds, parties to the contract and signature page required)
Approved invoices
Material inspection and receiving reports
Evidence of in-house labor
Drawings
Direct and indirect costs are to be included.

107.6.3.2.3 The interim form shall include any punch lists of items to be corrected prior to final acceptance.

107.6.3.2.4 The source of funds is also to be annotated, i.e., O&M, NAF, other agency/service, and private donation.

107.6.3.2.5 The interim DD Form 1354 must be signed by the transferring and accepting officials before the assets are placed in service.

107.6.3.3 Final.

107.6.3.3.1 The Final DD Form 1354 shall be completed once all costs have been expended but no later than 10 months after the building occupancy date.

107.6.3.3.2 The final DD Form 1354 shall include the total final cost for each real property asset in a project and any corrections that need to be annotated. Additional supporting documentation that provides an audit trail of costs must be included.

107.6.3.3.3 The items listed in the punch lists at the interim must have been corrected or explanations of why they were not corrected shall be provided.

107.6.3.3.4 The source of funds is also to be annotated, i.e., O&M, NAF, other agency/service, and private donation.

107.6.3.3.5 The final DD Form 1354 must be signed by the transferring and accepting officials for a project to be completed.

108.0 TEMPORARY STRUCTURES AND USES

108.1 General.

The BCO is authorized to issue a building code permit for temporary structures and temporary uses (See Section 105.1.4). Such permits shall be limited as to time of service but shall not be permitted for more than 180 days. The BCO is authorized to grant extensions for demonstrated cause.

108.2 Conformance.

Temporary structures and uses shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation, and sanitary requirements of this code as necessary to ensure public health, safety, and general welfare.

108.3 Temporary power.

The BCO is authorized to give permission to temporarily supply and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat, or power in NFPA 70.

108.4 Termination of approval.

The BCO is authorized to terminate such permit for a temporary structure or use and to order the temporary structure or use to be discontinued.

109.0 RESERVED

110.0 INSPECTIONS

110.1 General.

Construction or work for which a building code permit is required shall be subject to inspection by the BCO and such construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code. Inspections presuming to give authority to violate or cancel the provisions of this code shall not be valid. It shall be the duty of the building code permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the BCO nor Standards and Compliance shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

110.2 Preliminary inspection.

Before issuing a building code permit, the BCO is authorized to examine or cause to be examined buildings, structures, and sites for which an application has been filed.

110.3 Required inspections.

Upon request from the building code permit holder, the BCO shall make the inspections set forth in Sections 110.3.1 through 110.3.22, as applicable. Contractor shall not schedule/request an inspection without a reasonable expectation that the work to be inspected will be completed at the time of the inspection. Penalties may be applied to the Contractor by the KO if less than 24 hours notice is given for cancellation of a scheduled/requested inspection.

110.3.1 Footing and foundation inspections.

Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place. For concrete foundations, any required forms shall be in place prior to inspection. Materials for the foundation shall be on the job, except where concrete is ready mixed in accordance with ASTM C 94, the concrete need not be on the job.

110.3.2 Underground inspections.

Underground installations shall be inspected after all piping, utilities, footings, support systems, etc., have been installed, and prior to backfilling.

110.3.3 Concrete slab, foundation wall, and under-floor inspections.

Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduit, piping accessories, and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including the subfloor.

110.3.4 Lowest floor elevation inspections.

In flood hazard areas, upon placement of the lowest floor, including the basement, and prior to further vertical construction, the elevation certification required in Section 216.0 shall be submitted to the BCO.

110.3.5 Roof Framing inspections.

Roof framing inspections shall be made after the roof deck or sheathing, all framing, fireproofing, fire blocking, and bracing are in place and pipes, chimneys, and vents to be concealed are complete and the rough electrical, plumbing, heating wires, pipes, and ducts are approved. Framing inspection shall be conducted prior to covering.

110.3.6 Wall Framing inspections.

Wall framing inspection shall be made after the wall framing, all fireblocking, fireproofing, and bracing are in place. Framing inspection shall be conducted prior to installation of utilities and wall coverings.

110.3.7 Wall Close-in inspections.

Wall close-in inspection shall be conducted after wall framing, bracing, and fireproofing is complete and after all utilities have been installed. Close-in inspections shall take place immediately prior to installation of insulation and wall covering material(s).

110.3.8 Ceiling Close-in inspections.

Ceiling close-in inspection shall be conducted after all framing, fireproofing, and firestopping are in place and installation of all above-ceiling utilities is finalized. Close-in inspections shall take place immediately prior to installation of the ceiling covering materials.

110.3.9 Lath and gypsum board inspections.

Lath and gypsum board inspections shall be made after lathing and gypsum board, interior and exterior, is in place, but before any plastering is applied or gypsum board joints and fasteners are taped and finished.

Exception: Gypsum board that is not part of a fire-resistance-rated assembly or a shear assembly.

110.3.10 Fire and smoke-resistant penetration inspections.

Protection of joints and penetrations in fire-resistance-rated assemblies, smoke barriers, and smoke partitions shall not be concealed from view until inspected and approved.

110.3.11 Energy efficiency inspections.

Inspections shall be made to determine compliance with Section 213.0 of this code and shall include, but not be limited to, inspections for: envelope insulation R- and U-values, fenestration U-value, duct system R-value, and HVAC and water heating equipment efficiency.

110.3.12 Elevator inspections.

Elevators shall be tested and inspected as required in Section 230.0 of this code.

110.3.13 Fire protection and fire alarm inspections.

Fire protection/fire alarm inspections shall include verification of sprinkler and standpipe piping support, sprinkler location/placement, system components, conduit installation, detection/notification equipment placement, etc. Final fire protection and fire alarm inspections are required after completion of the work, prior to issuance of the Certificate of Occupancy. Fire protection and alarm systems shall be inspected prior to commencement of work in areas where existing systems are to remain in place and/or only minor modifications are to be made.

110.3.14 Life safety inspections.

Life safety inspections shall include verification of exit signs, handrails, available stair, door and corridor widths, travel distances, etc. Final life safety inspections are required after completion of the work, prior to issuance of the Certificate of Occupancy. Life safety components shall be inspected prior to commencement of work in areas where existing systems are to remain in place and/or only minor modifications are to be made.

110.3.15 Accessibility inspections (Reserved) See Section 211.0 of this code.

110.3.16 Mechanical inspections (Reserved) See Section 228.0 of this code.

110.3.17 Electrical inspections (Reserved) See Section 227.0 of this code.

110.3.18 Plumbing inspections (Reserved) See Section 229.0 of this code.

110.3.19 Other inspections.

In addition to the inspections specified above, the BCO is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code.

110.3.20 Special inspections.

For special inspections, see Section 217.0 of this code.

110.3.21 *Preparation for Final Code Compliance Inspection.

Before scheduling a Final Code Compliance Inspection, the contractor/builder shall verify to the satisfaction of the PM/COR that all work is complete and ready for occupancy and that the as-installed conditions are recorded on a set of red-line construction documents. These red-line construction documents shall be available at the project site at the time of the requested Final Code Compliance Inspection.

110.3.22 Final Code Compliance Inspection.

The BCO shall perform a final code compliance inspection after all work and inspections required by the building code permit are completed and before issuance of the Certificate of Occupancy to ensure that any defective work or discrepancies have been corrected and all work conforms with this code. The red-line construction documents shall be available for verification during the inspection.

110.4 Inspection agencies.

The BCO is authorized to accept reports of approved inspection agencies, provided such agencies satisfy the requirements as to qualifications and reliability.

110.5 Inspection requests.

The building code permit holder shall assure that at least the minimum required inspections listed on the building code permit have been conducted and approved prior to requesting a certificate of occupancy. The building code permit holder or their designated representative shall request inspections from the BCO. The permit holder shall make access arrangements and provide a means for inspections of such work that is required by this code.

110.6 Approval required.

Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the BCO. The BCO, upon notification and within a reasonable timeframe, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the building code permit holder or his or her agent wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered, concealed, or otherwise deemed complete until authorized by the BCO.

110.7 Reports of inspections.

A record of all reports of inspections, tests, examinations, discrepancies, and approvals shall be maintained by the BCO and shall be communicated promptly in writing to the permit holder.

111.0 CERTIFICATE OF OCCUPANCY

111.1 Use and occupancy.

No building, structure, or area shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made, until the BCO has issued a certificate of occupancy as provided herein. A certificate of occupancy indicating completion of the work for which a permit was issued shall be obtained prior to any occupancy of a structure. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code.

Exception: Certificates of occupancy are not required for work exempt from permits under Section 105.2.

111.2 Certificate issued.

After the BCO inspects the building or structure and finds no violations of the provisions of this code or other laws that are enforced by SCD, the BCO shall issue a certificate of occupancy that contains the following:

1. The permit type and number.
2. The address or location of the project or structure.
3. The name and contact information for the occupant.
4. A description of that portion of the structure for which the certificate is issued.
5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.
6. The name of the BCO.
7. The edition of the code(s) under which the permit was issued.
8. The use and occupancy, in accordance with the provisions of Section 203.0.
9. The type of construction as defined in Section 206.0.
10. The design occupant load.
11. If an automatic sprinkler system is provided, whether the sprinkler system is required.
12. Any special stipulations and conditions of the building code permit.

111.3 Temporary occupancy.

The BCO is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the permit, provided that such portion or portions shall be occupied safely. The BCO shall set a time period during which the temporary certificate of occupancy is valid.

111.4 Revocation.

The BCO is authorized to, in writing, suspend or revoke a certificate of occupancy or completion issued under the provisions of this code wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of any of the provisions of this code.

112.0 SERVICE UTILITIES

112.1 Connection of service utilities.

No person shall make connections from a utility, source of energy, fuel, or power to any building or system that is regulated by this code for which a permit is required, until released by the BCO and the Director, Facilities Operations and Services Division (FOSD).

112.2 Temporary connection.

The BCO, in conjunction with the Director, FOSD, shall have the authority to authorize the temporary connection of the building or system to the utility source of energy, fuel or power.

112.3 Authority to disconnect service utilities.

The BCO, in conjunction with the Director, FOSD, shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards set forth in Section **Error! Reference source not found.** in case of emergency, where necessary to eliminate an immediate hazard to life or property, or when such utility connection has been made without the approval required by Section 112.1 or 112.2.

112.4 Exemptions.

Equipment and related wiring installed by a provider of publicly regulated utility service or a franchised cable television operator, and electrical equipment and related wiring used for radio, broadcast or cable television, telecommunications or information service transmission are exempt. Such exempt equipment and wiring shall be under the ownership and control of the service provider or its affiliates and shall be located on either public rights of way or buildings and structures for which the service provider has rights of occupancy and entry; however, the structures, including their service equipment, housing or supporting infrastructure of such exempt equipment and wiring shall be subject to this section. The installation of equipment and wiring exempted by this section shall not create an unsafe condition prohibited by code.

113.0 APPEALS

113.1 Consideration for appeals.

Any person shall be permitted to appeal a decision of the BCO to the AHJ when it is claimed that any one or more of the conditions listed below exist.

113.1.1 The true intent of this code has been incorrectly interpreted.

113.1.2 The provisions of the WHSBC or other codes do not fully apply.

113.1.3 A decision is unreasonable or arbitrary as it applies to alternatives or new materials.

114.0 VIOLATIONS

114.1 Non-Compliance.

No person, firm, or corporation may erect, construct, alter, extend, repair, move, remove, demolish or occupy any building, structure or equipment regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

114.2 Notice of violation.

The BCO is authorized to serve a notice of violation or order on the COR/PM/KO responsible for the erection, construction, alteration, extension, repair, moving, removal, demolition, or occupancy of a building or structure in violation of the provisions of this code, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation. Where violations pose a danger to life or property; a party is guilty of repeated failure to correct violations; the defective work or use has not been remedied within a reasonable time following an inspection report; or any other directive has not been complied with within a reasonable time, a notice of violation order may suspend or revoke a temporary or permanent Certificate of Occupancy. The notice of violation order shall indicate the right of appeal by referencing the appeals section. Appeals should be directed to the AHJ.

114.3 Prosecution of violation.

If the notice of violation is not complied with promptly, the BCO is authorized to request the COR/PM/KO, or if there is no KO, the Director, FSD, to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

114.4 Violation penalties.

At the discretion of the COR/PM/KO, any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the BCO, or of a permit or certificate issued under the provisions of this code, shall be subject to penalties as prescribed by contract and/or regulation.

115.0 STOP WORK ORDER

115.1 Authority.

115.1.1 The BCO or a designated representative is authorized to issue a stop work order for any condition deemed an immediate danger to life or health.

115.1.2 The PM/COR, KO, or the Director, FSD, is authorized to issue a stop work order when the BCO determines that work regulated by this code is being performed in a manner contrary to the provisions of the code.

115.2 Issuance.

The stop work order shall be in writing and shall be given to the project manager involved or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work will be permitted to resume.

115.3 Unlawful continuance.

Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by contract or regulation.

116.0 UNSAFE STRUCTURES AND EQUIPMENT

116.1 Conditions.

Structures or equipment that are or hereafter become unsafe, unsanitary, or deficient because of inadequate means of egress facilities, inadequate light and ventilation, or which constitute a fire hazard, or are otherwise dangerous to human life or the public welfare, or that involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. Unsafe structures shall be taken down and removed or made safe as the BCO deems necessary and as provided for in this section. A vacant structure that is not secured against entry shall be deemed unsafe.

116.2 Record.

The BCO shall cause a report to be filed on an unsafe condition. The report shall state the occupancy of the structure and the nature of the unsafe condition.

116.3 Notice.

If an unsafe condition is found, the BCO shall serve on the person in control of the structure, a written notice that describes the condition deemed unsafe and specifies the required repairs or improvements to be made to abate the unsafe condition, or that requires the unsafe structure to be demolished within a stipulated time. Such notice shall require the person thus notified to declare immediately to the BCO acceptance or rejection of the terms of the order.

116.4 Method of service.

Such notice shall be deemed properly served if delivered in a manner approved by WHS Office of the General Counsel (WHS OGC). Service of such notice upon the owner's agent or upon the person responsible for the structure shall constitute service of notice upon the owner.

116.5 Restoration.

The structure or equipment determined to be unsafe by the BCO is permitted to be restored to a safe condition. To the extent that repairs, alterations or additions are made or a change of occupancy occurs during the restoration of the structure, such repairs, alterations, additions, or change of occupancy shall comply with the requirements of Section 105.2

117.0 COMMISSIONING

117.1 *Requirements.

The BCO/AHJ may require the implementation of a commissioning process depending upon the type of project, size and complexity, degree of interface with WHS utility infrastructure, and whether or not equipment will be turned over to WHS for Operations and Maintenance.

118.0 SITE LIMITATIONS

118.1 While installing building structures or during demolition, noise shall not exceed 85 dBa to any tenant in their space at any one time during normal business hours of a normal 5 day work week.

200.0 WHSBC TECHNICAL AMENDMENTS

201.0 CHAPTER 1 – SCOPE AND ADMINISTRATION

201.1 Use UFC 1-200-01, Section 2-1, Section 100.0 of this code and modifications below.

201.2 Military Department, Defense Agency, and DoD Field Activity specific exceptions/requirements identified within referenced UFC documents or UFGSs do not apply unless specifically adopted by this document.

201.3 No construction, alteration, or repair shall reduce the level of fire protection or life safety provided by existing conditions.

201.4 Wherever the terms "Installation", "Base", "Basewide" are used in the UFCs, these terms shall also be meant to include the term "Facility".

202.0 CHAPTER 2 – DEFINITIONS

202.1 Use UFC 1-200-01, Section 2-2 and definitions in Section 101.5 of this code.

202.2 Definitions apply to terms used in the model code and are not intended to replace definitions and terms in military documents.

203.0 CHAPTER 3 –OCCUPANCY CLASSIFICATION AND USE

203.1 Use UFC 1-200-01, Section 2-3.

204.0 CHAPTER 4 – SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

204.1 Use UFC 1-200-01, Section 2-4 and modifications below.

204.2 Additive Manufacturing (3D Printing Technology and Cold Spray Material-Deposition Process Technology (UFC 3-600-02, Section 4-2).

204.3 Aircraft Acoustical Enclosures (UFC 3-600-01, Section 4-3).

204.4 Aircraft Facilities (UFC 3-600-01, Section 4-4).

204.5 Ammunition and Explosives Facilities (UFC 3-600-01, Section 4-5).

204.6 Anechoic Chambers (UFC 3-600-01, Section 4-6).

204.7 Animal Housing Facilities (UFC 3-600-01, Section 4-7).

204.8 Battery Energy Storage Systems – Lithium (UFC 3-600-01, Section 4-8).

204.9 Child Development Programs (UFC 3-600-01, Section 4-9).

204.10 Coal (UFC 3-600-01, Section 4-10).

204.11 Commissaries and Exchanges (UFC 3-600-01, Section 4-11).

204.12 Compact Mobile Shelving (UFC 3-600-01, Section 4-12).

204.13 Department of Defense Education Activity (DODEA) (UFC 3-600-01, Section 4-13).

204.14 Detention and Correctional Facilities (UFC 3-600-01, Section 4-14).

204.15 Electronic Equipment Areas (UFC 3-600-01, Section 4-15).

204.15.1 Change Section 4-15.3.2 to: Smoke detection shall provide not less than 3 distinct alarm conditions/levels indicating increasing smoke/combustion conditions.

204.15.2 Add the following to Section 4-15.4.3:

Exception: For spaces that are normally unoccupied and are 500 ft^2 or less in area, delete NFPA 75 requirement for separately valved sprinkler systems.

204.15.3 Change Section 4-15.6.4 to: Electrical equipment shall be protected by disconnecting the power upon activation of heat detectors that are of lower temperature than the sprinkler protecting the space, unless power disconnect is permitted by manual means per UFC Section 4-15.6.2.

204.16 Elevators (UFC 3-600-01, Section 4-16).

204.16.1 Change Section 4-16.3.1 to: Provide smoke detectors at all elevator lobbies and all elevator machine rooms, including where machine room-less controllers are located. Where ambient conditions are beyond the listing parameters for the smoke detector, a heat detector shall be provided.

204.16.2 Change Section 4-16.4.2.3 to: Actuation of the waterflow switch must remove power to the elevator(s) served by that machine room.

204.16.3 Change Section 4-16.4.2.4 to: The waterflow switch must have no time delay capability. For elevator machine rooms with sprinkler systems supplied by the C-CUT fire protection loop, the waterflow switch shall be set with a 20-30 second time delay, and the no time delay power shunt shall instead be accomplished using heat detectors installed adjacent to each sprinkler in accordance with NFPA 72.

204.16.4 Change Section 4-16.4.3.3 to: Actuation of the waterflow switch must remove power to the elevator(s) served by that hoistway.

204.17 Emergency Services Communication Centers (UFC 3-600-01, Section 4-17).

204.18 Family Housing (UFC 3-600-01, Section 4-18).

204.19 Food Preparation in Facilities (UFC 3-600-01, Section 4-19).

204.19.1 Change Section 4-19.1.1 to: Hood and duct systems for public and private commercial cooking equipment that produces smoke or grease-laden vapors must comply with NFPA 96, “Ventilation Control and Fire Protection of Commercial Cooking Operations” and NFPA 17A, “Standard for Wet Chemical Extinguishing Systems”.

204.19.2 *Change Section 4-19.1.2 to: For new construction and new complete system installations, limit commercial kitchen extinguishing systems to dual agent systems (such as water-assisted wet chemical or water plus surfactant) installed in accordance with NFPA 96, NFPA 17A, and UL 300. Automatic sprinklers shall not be permitted for protection of kitchen hood and duct systems.

204.19.3 Add Section 4-19.1.3: Install fire suppression systems that sound a general building fire alarm and transmit a signal to a constantly attended location.

204.19.4 Add Section 4-19.1.4: Ventilation Equipment.

204.19.4.1 Add Section 4-19.1.4.1: Where commercial cooking appliances are vented by means of the Type I or II kitchen exhaust hood system that serves such appliances, the exhaust system shall be fan powered and the gas and electric appliances shall be interlocked with the exhaust hood system to prevent appliance operation when the exhaust hood system is not operating.

204.19.4.1.1 Add Section 4-19.1.4.1.1: Means of interlock for new kitchen projects or full renovations may be of other means permitted by UFC 3-410-01/International Mechanical Code when approved by the Building Code Official.

204.19.4.2 Add Section 4-19.1.4.2: Grease ducts shall require the installation of a continuous 2 hour fire barrier from the kitchen hood to the exhaust fan using a 2 hour fire barrier duct wrap, 2 hour fire resistant shaft type enclosure, or combination.

204.19.4.3 Add Section 4-19.1.4.3: Access panels installed for duct cleaning shall be greasetight, have a gasket or sealant rated to 1500°F, and shall be provided as a minimum:

a. Vertical duct sections - one at each floor;

b. Horizontal duct sections - one every 12 ft;

c. Change of direction of duct - one at each change of direction;

d. Exhaust fans with ductwork connected to both sides - within 3 ft of the fan on each side.

Exception: Prefabricated and listed grease ducts that do not meet Section 204.19.4.3 shall be permitted if approved by the Building Code Official.

204.19.4.4 Add Section 4-19.1.4.4: Duct systems that convey grease-laden vapors must pass a water test that uses a pressure washer operating at a minimum of 1500 psi following the requirements of ASHRAE 154.

204.19.5 Add Section 4-19.1.5 Bypass: Where a solenoid valve is installed in the gas piping as part of an interlock system, a bypass line no larger than a 1/2 in. shall be installed to continuously supply the pilot(s) when the exhaust fan is not operating.

204.19.5.1 Add Section 4-19.1.5.1: Solenoid valve bypass can be omitted if approved as part of an alternate means of interlock per WHSBC Section 204.19.6.1.1 for new kitchen projects or full renovations.

204.19.6 Add Section 4-19.1.6: Construction and renovation of food preparation, food service and food storage facilities shall comply with the requirements of the Tri Service Food Code.

204.19.7 Add Section 4-19.1.7: All commercial kitchen appliances utilizing gas shall be auto-ignition type unless specifically approved by the PFM and Director, FOSD.

204.19.8 Add Section 4-19.2.4.6: Residential Cooking Equipment.

204.19.8.1 Residential type stoves/ranges shall be located under a metal hood.

204.19.8.2 *Change Section 4-19.2.1.1 to: Residential type range top cooking appliances must be approved by OPFM and the Director, FOSD and equipped with a UL 300A listed residential range top extinguishing system.

204.19.8.3 Add Section 4-19.2.1.3: Residential type appliances shall be electrically powered; gas fueled appliances are not permitted.

204.20 Hazardous Materials and Hazardous Waste (UFC 3-600-01, Section 4-20).

204.21 High-Rise Buildings (UFC 3-600-01, Section 4-21).

204.22 Historic Facilities (UFC 3-600-01, Section 4-22).

204.23 Hydraulic Systems (UFC 3-600-01, Section 4-23).

204.24 Hydroelectric Generating Plants (UFC 3-600-01, Section 4-24).

204.25 Hydrogen Facilities (UFC 3-600-01, Section 4-25).

204.26 Hyperbaric and Hypobaric Chambers (UFC 3-600-01, Section 4-26).

204.27 Laboratories (UFC 3-600-01, Section 4-27).

204.28 Historic Resource Libraries, Archives and Facilities (UFC 3-600-01, Section 4-28).

204.29 Limited Access and Underground Structures (UFC 3-600-01, Section 4-29).

204.30 Medical Facilities (UFC 3-600-01, Section 4-30).

204.31 Military Operations on Urban Terrain (MOUT) Trainers (UFC 3-600-01, Section 4-31).

204.32 Missile Alert Facilities (MAF) (UFC 3-600-01, Section 4-32).

204.33 Morale Welfare and Recreation Facilities (MWR) (UFC 3-600-01, Section 4-33).

204.34 Natural Gas Service (UFC 3-600-01, Section 4-34).

204.35 Navigation Locks and Lake Projects (UFC 3-600-01, Section 4-35).

204.36 Oxygen (UFC 3-600-01, Section 4-36).

204.37 Personnel Housing and Similar Lodging Facilities. (UFC 3-600-01, Section 4-37).

204.38 Pesticide Storage and Handling Facilities (UFC 3-600-01, Section 4-38).

204.39 Petroleum, Oils and Lubricants (POL) Facilities (UFC 3-600-01, Section 4-39).

204.40 Power Generating and Utilization Equipment (UFC 3-600-01, Section 4-40).

204.41 Privacy Pods or Privacy Enclosures (UFC 3-600-01, Section 4-41).

204.42 Ranges and Remote Locations (UFC 3-600-01, Section 4-42).

204.43 Relocatables (UFC 3-600-01, Section 4-43).

204.44 Secure Compartmented Information Facility (SCIF) (UFC 3-600-01, Section 4-44).

204.44.1.1 Delete Section 4-44.2.1.2

204.44.1.2 Add Section 4-44.3.4: Where audible circuits must pass a SCIF boundary, a means must be provided to prevent listening across the SCIF boundary.

204.44.1.3 For additional accessibility requirements, see Section 211.4

204.44.1.4 For additional mechanical requirements, see Section 228.2.16.

204.45 Tensioned-Membrane Structures (UFC 3-600-01, Section 4-45).

204.46 Trash/Recycling Collection and Disposal Areas (UFC 3-600-01, Section 4-46).

204.47 Vehicle Parking, Storage, Maintenance and Repair Facilities (UFC 3-600-01, Section 4-47).

204.48 Warehouse and Storage Facilities (UFC 3-600-01, Section 4-48).

204.48.1 Change Section 4-48.2.1.1 to: Change 5000 ft^2 to 3000 ft^2.

204.49 Waterfront Facilities (UFC 3-600-01, Section 4-49).

204.50 Wildland-Urban Interface Locations (UFC 3-600-01, Section 4-50).

205.0 CHAPTER 5 – GENERAL BUILDING HEIGHTS AND AREAS

205.1 Use UFC 1-200-01, Section 2-5.

206.0 CHAPTER 6 – TYPES OF CONSTRUCTION

206.1 Use UFC 1-200-01, Section 2-6.

207.0 CHAPTER 7 – FIRE AND SMOKE PROTECTION FEATURES

207.1 Use UFC 1-200-01, Section 2-7 and modifications below.

207.2 Add the following to Section 7-1:

(1) In the Pentagon, the A Ring and E Ring walls shall be of one-hour fire resistance rated construction. *Exception: For alteration or renovation work beyond interior finish in the A Ring or E Ring corridors that are currently not rated, if the work involves 10 linear ft or less, or involves only door replacement, then the wall does not need to be upgraded at time of renovation.*

(2) In the Pentagon, the radial corridor walls shall be of two-hour resistance rated construction. *Exception: For alteration or renovation work beyond interior finish in radial corridors that are currently not rated, if the work involves 10 linear ft or less, or involves only door replacement and said wall or door is not immediately adjacent to a two-hour rated wall, then the wall does not need to be upgraded at time of alteration or renovation.*

(3) For nonsprinklered buildings, storage rooms between 100 ft^2 and 500 ft^2 shall be of one-hour fire resistance rated construction. For nonsprinklered buildings, storage rooms greater than 500 ft^2 shall be of two-hour fire resistance rated construction. For sprinklered buildings, storage rooms greater than 300 ft^2 shall be of one-hour fire-resistance rated construction.

(4) Electrical rooms shall be of one-hour fire resistance rated construction. Medium and high voltage electrical vaults and oil-insulated transformer vaults shall be of three-hour fire resistance rated construction.

(5) Telecommunications rooms shall be a minimum of one-hour fire resistance rated construction.

(6) Laboratory space shall be separated from all other spaces by two-hour fire resistance rated construction if flammable liquids of any quantity may be used.

(7) Labeling – Must be provided and spaced no more than 10 ft, measured edge to edge horizontally along the wall or partition.

(8) For all membrane penetrations of fire rated barriers and partitions, all steel electrical or junction boxes shall be firestopped by an approved method regardless of size or total aggregate area of the openings.

208.0 CHAPTER 8 – INTERIOR FINISHES

208.1 Use UFC 1-200-01, Section 2-8.

209.0 CHAPTER 9 – FIRE PROTECTION SYSTEMS

209.1 Use UFC 1-200-01, Section 2-9 and modifications to UFC 3-600-01 below.

209.2 Change Section 9-3.1.5 to: Provide corrosion protection utilizing polyethylene wraps, bituminous coatings, use of CPVC or cathodic protection.

209.3 Change Section 9-3.1.6 to: Where cathodic protection is used, comply with UFC 3-570-02A, *Cathodic Protection*.

209.4 Add Section 9-3.1.7: All water based fire suppression systems contiguous to the Pentagon must be supplied by the Center Courtyard Utility Tunnel (C-CUT) fire protection loop.

209.5 Change Section 9-3.4.5 to: Provide supervision of all post indicator valves (PIVs). Supervision shall be accomplished using a lock or tamper seal as well as electronic supervision that reports to the building fire alarm system.

209.6 Change Section 9-3.5.1 to: Fire hydrants must be UL-listed, FM-approved, or listed or classified by a NRTL. All hydrant outlets shall comply with the standard American National Fire Hose Connection Screw Thread (NH) in accordance with NFPA 1963. The hydrant shall have two 2 1/2 in. hose outlets and one pumper outlet sized to correspond with the primary responding fire department's equipment. The pumper outlet shall not be less than 4 in. For the Pentagon Campus, provide a 4 in. pumper outlet to match the Arlington County hydrant standard.

209.7 Change Section 9-5.5.1 to: Provide variable speed electric fire pump controllers with digital soft start bypass for electric-driven pumps.

209.8 The following exceptions shall apply to Section 9-6.3.2

Exception: For new and modified pre-engineered fire suppression systems, designs by a factory certified system designer are acceptable.

209.9 Change Section 9-6.3.3 to: Where twenty or less sprinklers are modified or relocated, hydraulic calculations and material submittals are not required to be submitted. Construction shop drawings meeting NFPA 13 requirements for working plans are required for all sprinkler system modifications.

209.10 Add Section 9-6.3.9: Hydraulic calculations shall include a minimum 10 psi safety factor.

209.11 Change Section 9-6.4 Waterflow Testing as follows:

209.11.1 Conduct waterflow tests, in accordance with the procedures contained in NFPA 291, to determine available water supply for the water-based fire extinguishing systems. The flow test must be performed under the direction of the *QFPE*. Calculations must be based on water flow test data fewer than 12 months old conducted in accordance with Section 209.8.

209.11.2 *Waterflow testing is not required for sprinkler systems supplied by the C-CUT fire protection loop.

209.12 Section 9-6.4 shall not apply to renovations within the Pentagon Reservation where annual water flow test data is available. A water flow test conducted in accordance with NFPA 291 is required for all new free standing sprinklered structures. Water flow tests shall be witnessed by a representative of the OPFM.

209.13 Change Section 9-6.8.2 to: Provide sprinkler system piping labeling on all feed and cross mains on the Pentagon Reservation in accordance with the following requirements.

a. Install identification markings on piping at intervals not exceeding 25 ft.

b. At least one identification label shall be provided on each pipe in each room, space or story.

c. Pipe labeling shall consist of one rectangular label noting pipe content, and a ring of flow arrows on each side of the description noting direction of flow, both conforming to ANSI-A13.1.

d. Flow arrows shall wrap over each description label end and shall wrap around itself by at least 2 in. to ensure a good bond.

e. Color shall be red background with white letters, numbers or symbols.

f. Identification markings for sprinkler supply piping shall state "FIRE SPRINKLER".

209.14 Add Section 9-7.1.4: In the Pentagon, where hydrostatic testing is required, sprinkler systems shall be tested at 225 psi.

209.15 Change Section 9-7.2.1.1 to: Single-story, Type I or II construction facilities greater than 5,000 ft^2.

209.16 Change Section 9-7.2.1.3 to: Single-story Type III, Type IV, and Type V construction greater than 3,500 ft^2.

209.17 Add Section 9-7.2.1.7: For Additions or Partial Renovations of Existing Buildings. Sprinkler protection must be provided if the entire gross floor area of the building (including any additions) exceeds 5,000 ft^2, or is an essential facility. The addition or portion of the building being renovated must include sprinkler protection and be designed to support sprinklers for the remainder of the building when it is renovated.

209.18 *Add Section 9-7.3.1.3: All sprinkler systems on the Pentagon Campus shall meet the following criteria:

a. Minimum design density and area of 0.15 gpm/ft^2 over 3000 ft^2 for Light or Ordinary Hazard occupancies.

b. K-factor of 5.6 is permitted for Light and Ordinary Hazard occupancies.

c. Follow NFPA 13 Ordinary Hazard sprinkler spacing requirements for all Light and Ordinary Hazard occupancies.

Exception: Rooms less than 130 sq ft that are within Light Hazard occupancies are permitted to follow NFPA 13 small room requirements for sprinkler spacing

209.19 Delete Section 9-7.4.1.1 and 9-7.4.1.2.

209.20 Add Section 9-7.4.3.3: Extended coverage sprinklers may be used for the protection of electronic equipment and telecommunication spaces.

209.21 Change Section 9-7.6.2 to: Use Schedule 40 steel piping for all sprinkler systems.

209.22 Delete Section 9-7.6.5.

209.23 Change Section 9-7.6.6 to: Saddle tees using rubber gasket fittings are only permitted when connecting to existing piping 2 in. or greater for additions or modifications. Saddle tees shall be of the bolted saddle-type with a connection method that completely wraps around the pipe. Fittings that utilize u-bolts are not permitted.

209.24 Replace Section 9-7.6.8 as follows: Installations utilizing flexible sprinkler connections must meet the following requirements:

- Connections shall be listed by UL and the equivalent lengths used in the hydraulic calculations shall originate from UL testing.

- Connections utilizing O-ring style fittings will not be permitted.
- Connection assemblies shall be listed for seismic installations per the UFC.
- The use of a tool and/or special knowledge shall be required to detach mounting brackets from the ceiling construction.
- All flexible connections on a project shall be of a uniform length. Note, the specific length used is permitted to vary between projects.

209.25 Change Section 9-7.6.9 to: Along straight lengths of pipe, make changes in pipe sizes through tapered reducing pipe fittings.

209.26 Add Section 9-7.6.11: All piping in dry-pipe systems and piping exposed to humid or corrosive atmospheres (due to moisture or fumes from corrosive chemicals or both) shall be cleaned of oils and other contaminants, primed, and painted.

209.27 Add Section 9-7.6.12: Unions and bushings shall not be used in sprinkler systems on the system side of the control valve.

209.28 Add Section 9-7.6.1: Sprinkler Air Vent - A sprinkler air vent shall be installed on each wet pipe sprinkler system in accordance with NFPA 13 and shall comply with the following requirements:

a. Sprinkler air vents shall be of the manual valve type.

*b. Sprinkler air vents shall be installed in locations that are readily accessible to maintenance personnel, such as public corridors or mechanical rooms.

c, Signage shall be provided at the sprinkler riser indicating the location of any sprinkler air vent(s) on the system.

d. Where sprinkler air vents are installed above a suspended ceiling system, signage visible from the floor shall be installed beneath the air vent to indicate its location.

209.29 Change Section 9-7.7.1 to: Nitrogen generator systems shall be designed so all equipment is installed within the confines of the riser room with the exception of a connection for a manual gas analyzer and/or the purge valve.

209.30 Delete Section 9-7.10.2. Revert to NFPA 13 requirements.

209.31 *Re-number Section 9-7.10.6 to 9-7.10.6.1. Add Section 9-7.10.6.2 – Provide a dedicated control valve assembly for piping serving rooms designated for mercantile and food services. Locate the control valve assembly outside of the area it serves in an easily accessible identified location. This requirement shall not apply to small convenience stores and snack shops.

209.32 Add Section 9-7.10.12: Sprinkler piping shall not be installed in locations subject to significant and foreseeable mechanical or physical harm unless protected by approved barriers.

209.33 Add Section 9-7.10.13: The use of roll grooved pipe with grooved fittings is prohibited in dry and pre-action sprinkler systems.

209.34 Add Section 9-7.10.14: Valves controlling the water supply to automatic fire extinguishing systems protecting kitchen hoods shall be a listed, indicating type and shall be supervised open via the building fire alarm system.

209.35 Change Section 9-10.1 to: When required, standpipe systems must comply with NFPA 14 and the “Fire Suppression Systems” requirements of this UFC.

209.36 Change Section 9-12.1 to: Wet chemical systems must conform to NFPA 17A, Standard for Wet Chemical Extinguishing Systems, NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations (for kitchen applications), the “Fire Suppression Systems” requirements of UFC 3-600-01, and the manufacturer’s listed installation manual.

209.37 Change Section 9-17.1 to: Portable extinguishers must be provided where required by NFPA 101, Life Safety Code. The following additional requirements shall also apply:

a. Fire extinguishers shall be provided in all electrical rooms, substations and mechanical rooms.

b. Fire extinguishers shall be provided at the floor landing of each stairwell.

c. The travel distance to a fire extinguisher shall not exceed 50 ft.
Exception: Parking garages – fire extinguishers are required at every level within each stairwell.

d. ABC Dry Chemical extinguishers shall have minimum rating of 4A80BC and a minimum discharge time 20 seconds.

e. ABC Clean Agent extinguishers shall minimum rating of 2A10BC and a minimum discharge time of 13 seconds.

f. Fire extinguisher signage shall be provided at all fire extinguishers. Fire extinguisher signage shall be wall mounted, double sided and photoluminescent and shall project from the wall a minimum of 4 in.
Exception: Signage is not required in stairwells.

g. Where provided, fire extinguisher monitoring systems shall be provided with a hard-wired means of power.

209.38 Change Section 9-17.2.2 to: Clean agent fire extinguishers shall be provided in all telecommunications and computer rooms.

209.39 Add Section 9-17.3 Mounting:

209.39.1 In finished areas, recessed or semi-recessed enclosed cabinets must be provided for fire extinguishers.

209.39.2 In unfinished areas (such as warehouses and industrial areas), wall brackets or enclosed cabinets must be provided for fire extinguishers.

209.39.3 Break-glass style fire extinguisher cabinets are not permitted.

209.40 Add Section 9-18.1.2.4: All buildings within the Pentagon Campus shall transmit point addressable alarm, supervisory, and trouble signals back to the Pentagon POC via the Class X fiber optic network.

209.41 The following exception shall apply to Section 9-18.2:

Exception: For modifications to fire alarms systems affecting fewer than 5 audio/visual appliances, system working plans do not need to be reviewed or prepared by a NICET Level III/Fire Protection Engineer.

209.42 Amend Section 9-18.3.5to include the following:

(g) Fire alarm systems and all detection, notification and monitoring components shall be controllable and resettable from the Pentagon POC or other respective proprietary supervising stations.

209.43 Add Section 9-18.5.1.4 Gas Detection: Gas detection system control units in the Pentagon and other structures that are provided with a fire alarm system shall be annunciated on the associated fire alarm system when the gas alarm threshold is exceeded.

209.44 Amend Section 9-18.6.3 to include the following:

(m) Audible alarm notification appliances shall be provided and shall produce a distinctive sound that is not to be used for any purpose other than that of a fire alarm. The audible alarm notification appliances shall provide a sound pressure level of 65 dBA; 15 dBA above the average ambient sound level; or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is higher.
(n) Locally installed audio or visual systems that compete with or reduce the effectiveness of an emergency signal from the fire alarm or mass notification system shall be interlocked to shut down the local signal, prioritizing the emergency signal.

209.45 Change Section 9-18.6.5 to:

For systems using voice evacuation or combined with the Mass Notification System, the default fire alarm voice evacuation message must state the following:

"May I have your attention please. May I have your attention please. A fire emergency has been reported in the building. Please leave the building by the nearest exit or exit stairway. Do not use the elevators." <provide a 2 second pause> "May I have your attention please…" (repeat the message).

Note 1: For single story buildings, delete "or exit stairway. Do not use the elevators" in the voice message.

Note 2: See "Appendix E" of UFC 3-600-01 for guidance on other messages.

209.46 Change Section 9-18.7.4.1 to: Manual pull stations must be provided in accordance with NFPA 101.

209.47 Change 9-18.7.4.2 to: Provide single-action manual pull stations with mechanical reset features. The manual reset shall be accomplished using the same key as required for the fire alarm control panel. Each manual pull station shall be provided with a separate address.

209.48 Change Section 9-18.7.6 to: When under-floor smoke detectors are provided, provide a framed CAD drawn floor plan showing the location of the devices in the room and their corresponding address. Locate a single framed drawing inside the space that contains smoke detectors adjacent to the main entrance to that space.

209.49 Change Section 9-18.9.1 to: Facility emergency notification systems including fire alarm (detection, notification, and signaling) and/or mass notification shall be addressable voice notification systems using a minimum of Class B pathways as defined by NFPA 72. Use of pathways with lesser performance capabilities shall require AHJ approval.

209.50 Add Section 9-18.9.2.1: Metal armored cable shall be allowed for fire alarm circuits that are confined within tenant space.

209.51 Change Section 9-18.9.4.1 to: All new conductors must be solid copper. Modifications to existing systems must match the existing conductor types and protections at a minimum.

209.52 Add Section 9-18.9.4.4: Where conductors are color-coded, the lighter shade of the pair shall be positive.

209.53 Change Section 9-18.9.7.1 to: All fire alarm cable, conduit, junction boxes and covers in unfinished areas (above ceilings, mechanical rooms, etc.) must be red.

209.54 Change Section 9-18.9.7.2 to: In finished areas, conduit and junction boxes can be painted to match the room finish, the inside cover of the junction box must be identified as "Fire Alarm" and the conduit must have painted red bands 3/4 in. wide at 20 ft intervals and on both sides of a floor, wall, or ceiling penetration.

209.55 Add Section 9-18.11.3.1: Modifications to existing fire alarm systems must not exceed the standby power design basis for the original system. Where the original standby power design basis is unknown or is exceeded by the modifications, the requirements of UFC 3-600-01, Section 9-18.11.3 shall apply.

210.0 CHAPTER 10 – MEANS OF EGRESS

210.1 Use UFC 1-200-01, Section 2-10 and modifications to UFC 3-600-01 below.

210.2 Add the following to Section 10-1.1.

210.2.1 The following spaces are not considered part of the designated exit access as it relates to NFPA 101 requirements for Illumination of a Means of Egress (Section 7.8) and Emergency Lighting (Section 7.9) in Business Occupancies:

- Individual work cubicles,
- Private offices, and
- Conference rooms, teaming rooms, shared offices, and similar collaboration spaces under 200 ft^2.

210.2.2 Conference rooms, teaming rooms, shared offices, and similar collaboration spaces less than 450 ft^2 in Business Occupancies, are exempt from NFPA 101, Section 7.8.1.2 requirements for continuous illumination of a means of egress, provided both of the following conditions are satisfied:

(1) Upon activation of the fire alarm system, lighting levels automatically return to NFPA 101 Section, 7.8 requirements for illumination levels.

(2) Upon loss of power, lighting levels automatically return to NFPA 101, Section 7.8 requirements for illumination lighting.

210.3 Add Section 10-1.3: Door leaves shall unlock in the direction of egress upon activation of a manual pull station.

210.4 *Add Section 10-1.4: Access panels shall not be installed in exit passageways.

210.5 *Add Section 10-1.5: Signage stating “EMERGENCY EXIT DOOR - DO NOT BLOCK” shall be permanently affixed to both sides of doors that provide egress through an adjacent tenant space.

210.6 Add Section 10-1.6: The common path of travel shall be measured starting at a point 12 in. from the most remote point in the room (exclusive of furniture) to 12 in. beyond the point where an occupant has the choice of two separate and distinct egress paths to two different exits.

210.7 Add Section 10-1.7: Doors swinging into corridors shall be recessed such that they swing a maximum of 7 in. into the corridor.

210.8 Add Section 10-1.8: Security Locks. Where security locks are used to meet DoD security standards, the lock-sets shall be required to release the latch and to put the door leaf into motion with a single action. The lock-sets must not require special knowledge to operate. The lock-sets must not require tight hand/finger gripping to operate.

210.9 *Add Section 10-1.9: An emergency exit from an office suite is permitted to pass through an adjacent tenant space when all of the following requirements are met:

210.9.1 The egress routes through an adjacent tenant space shall be approved by the Pentagon Fire Marshal and documented with a Fire Prevention Permit.

210.9.2 The egress route through an adjacent tenant space shall be simple, straightforward, and clearly marked with illuminated exit signage.

210.9.3 The egress route through an adjacent tenant space shall only pass through a single adjacent tenant space.

210.9.4 The egress door hardware shall allow free and immediate operation. Delayed egress locks are not permitted.

210.9.5 *Signage stating “EMERGENCY EXIT - DO NOT BLOCK” shall be permanently affixed to both sides of doors that provide egress through an adjacent tenant space.

210.10 Delete Section 10-2.1.2.

210.11 *Change Section 10-2.3 to: Photoluminescent exit signs and markings shall be provided in accordance with the requirements set forth in Sections 210.11.1 - 210.11.5.

210.11.1 Materials.

210.11.1.1 Materials for photoluminescent exit signs shall be listed in accordance with ANSI/UL 924, Standard for Emergency Lighting and Power Equipment.

210.11.1.2 Materials for photoluminescent egress path markings shall comply with either of the following:

(1) ASTM E2072, Standard Specification for Photoluminescent (Phosphorescent) Safety Markings, and ASTM E2073, Standard Test Method for Photopic Luminance of Photoluminescent (Phosphorescent) Markings

(2) ANSI/UL 1994, Standard for Luminous Egress Path Marking Systems

210.11.2 Photoluminescent exit signs and markings shall be continuously illuminated while the space is occupied.

210.11.2.1 *For normally unoccupied spaces, continuous illumination shall not be required.

210.11.2.2 For conference rooms, teaming rooms, and similar collaboration spaces less than 450 ft^2 in Business Occupancies, continuous illumination shall not be required.

210.11.3 Photoluminescent exit signs shall be installed at low level locations to supplement but not replace other code required exit signs.

210.11.4 Photoluminescent exit signs and markings shall be installed in the following locations:

210.11.4.1 Corridors.

210.11.4.1.1 Floor proximity directional/pathway striping shall be installed as follows:

- Striping shall be continuous from the most remote point to the nearest exit.
- Striping shall be provided on both sides of the corridor when the width is 6 1/2 ft or greater.
- Striping shall be 1 1/2 in. photoluminescent strips mounted within track frames directly above the baseboards. The required width refers to the visible width of the photoluminescent strip after installation.
- When cell phone cabinets, display cabinets, or similar permanent fixtures are located along walls, the directional striping shall be mounted in a track frame applied to the fixture.

210.11.4.1.2 Doors from corridors to exits or stairs shall be provided with the following:

- 1 in. tape or equivalent mounted on or adjacent to door frame (both jambs and head).
- Exit sign located on latch side of door, above the baseboard. For double doors, exit signs shall be installed adjacent to each door leaf on the egress side of the door, above the baseboard. When there is not sufficient space on the wall, exit sign(s) can be installed on each door leaf, as long as that door is normally in the closed position (e.g. does not have a hold-open device).
- Stairway identification sign.
- 1 in. tape or equivalent around door hardware. Manufacturer installed markings on door hardware are an acceptable alternative.

210.11.4.1.3 The following items located in corridors shall be provided with photoluminescent identification signs:

- Fire extinguisher cabinets (double sided, projecting at least 4 in.)
- Fire hose cabinets
- Emergency telephones
- Fire alarm pull stations

210.11.4.1.4 Any door, passage, or stairway that is neither an exit nor a way of exit access and that is located or arranged so that it is likely to be mistaken for an exit shall be identified by a sign that reads as follows: NO EXIT.

210.11.4.2 Exit Stairs.

210.11.4.2.1 Floor proximity directional/pathway striping shall be installed as follows:

- Striping shall be continuous from all points within the stair to the stair discharge.
- Striping shall be 1 1/2 in. photoluminescent strips mounted within track frames directly above the baseboards. The required width refers to the visible width of the photoluminescent strip after installation.

210.11.4.2.2 Stairway Identification Signs. – A sign shall be provided at each floor landing in exit enclosures designating the floor level, the terminus of the top and bottom of the exit enclosure and the identification of the stair. The signage shall also state the story of, and the direction to, the exit discharge and the availability of roof access from the enclosure for the fire department. The sign shall be located 5 ft above the floor landing in a position that is readily visible when the doors are in the open and closed positions. Floor level identification signs in tactile characters complying with ICC A117.1 shall be located at each floor level landing adjacent to the door leading from the enclosure into the corridor to identify the floor level.

210.11.4.2.2.1 Stairway identification signs shall comply with all of the following requirements:

- The signs shall be a minimum size of 18 in. by 12 in.
- The letters designating the identification of the stair enclosure shall be a minimum of 1 1/2 in. in height.

- The number designating the floor level shall be a minimum of 5 in. in height and located in the center of the sign.
- All other lettering and numbers shall be a minimum of 1 in. in height.
- Characters and their background shall have a non-glare finish. Characters shall contrast with their background with either light characters on a dark background or dark characters on a light background.

210.11.4.2.3 Handrails shall be identified by wall mounted striping installed above, and equal in length to, the railings.

210.11.4.2.4 Stair markings shall be provided on both sides of each step to highlight the vertical rise and horizontal run.

210.11.4.2.5 Up or down symbol markings shall be provided on all non-exit level landings to direct occupants to the exit/discharge level.

210.11.4.2.6 Markings shall be provided for all emergency telephones and fire extinguisher cabinets within the stairwell.

210.11.4.2.7 Provide Obstruction striping on piping or other obstructions that project into landings.

210.11.4.2.8 Exit doors from stairs shall be provided with the following:

- 1 in. tape or equivalent mounted on or adjacent to door frame (both jambs and head).
- Exit sign located on latch side of door, above the baseboard. When there is not sufficient space on the wall, exit sign can be installed on the door leaf, as long as that door is normally in the closed position (e.g. does not have a hold-open device).
- 1 in. tape or equivalent around door hardware. Manufacturer installed markings on door hardware are an acceptable alternative.

210.11.4.3 Individual Offices larger than 250 ft^2, and Exam/Treatment Rooms

210.11.4.3.1 Exit doors from the space shall be provided with the following:

- 1 in. by 36 in. tape or equivalent mounted on or adjacent to door frame on latch side of door
- 1 in. tape or equivalent around door hardware. Manufacturer installed markings on door hardware are an acceptable alternative.

210.11.4.4 *Office Suites, Conference Rooms, Shared Offices, Teaming Rooms, and Restrooms.

210.11.4.4.1 Pathway directional striping shall be provided on all permanent walls within the designated exit access pathway, as clarified in Section 210.2.1, to the exit door.

210.11.4.4.1.1 On permanent walls striping may be adhesively mounted (without track frames).

210.11.4.4.2 Exit doors from the suite shall be provided with the following:

- 1 in. tape or equivalent mounted on or adjacent to door frame (both jambs and head).
- Exit sign located on latch side of door, above the baseboard. When there is not sufficient space on the wall, exit sign can be installed on the door leaf, as long as that door is normally in the closed position (e.g. does not have a hold-open device).
- 1 in. tape or equivalent around door hardware. Manufacturer installed markings on door hardware are an acceptable alternative.

210.11.4.5 Mechanical, Electrical, Telecom Rooms, Workshops, and Storage Rooms larger than 300 ft^2.

210.11.4.5.1 Obstruction striping shall be provided on low hanging obstructions and floor mounted piping.

210.11.4.5.2 Exit doors from the space shall be provided with the following:

- 1 in. tape or equivalent mounted on or adjacent to door frame (both jambs and head).
- Exit sign located on latch side of door, above the baseboard. When there is not sufficient space on the wall, exit sign can be installed on the door leaf, as long as that door is normally in the closed position (e.g. does not have a hold-open device).
- 1 in. tape or equivalent around door hardware. Manufacturer installed markings on door hardware are an acceptable alternative.

210.11.5 For any occupancy or space use not listed, a design for photoluminescent exit signs and markings shall be submitted for approval by the OPFM.

210.12 Change the following Occupant Load Factor in Table 10-1:

Table 10-1– Occupant Load Factors

Use	Ft^2 per person
Mechanical, electrical and other building equipment spaces	300 gross

211.0 CHAPTER 11 – ACCESSIBILITY

211.1 Use UFC 1-200-01, Section 2-11 and modifications below:

211.2 Exterior concrete stairs shall include cast in place aluminum nosing with an anti-slip abrasive surface and visual contrast.

211.2.1 Nosing shall be ABA and OSHA compliant.

211.2.2 Nosing shall terminate not more than 3 in. from either side of steps.

211.2.3 Nosing shall be furnished with concealed cast anchors.

211.3 Interior stairs shall include visual contrast built into tread nosings, or into the leading edges of treads without nosings.

211.4 Where doors are required to meet a 5-pound maximum opening force, a power assist opener shall be provided, or the designer shall submit an alternative method to meet the 5-pound requirement.

212.0 CHAPTER 12 – INTERIOR ENVIRONMENT

212.1 Use UFC 1-200-01, Section 2-12 and modifications below.

212.2 Delete Section 1203.1, including the exception, and replace with the following:

212.3 1203.1 *Equipment and Systems.* Use the applicable Unified Facilities Criteria for temperature control criteria.

213.0 CHAPTER 13 –ENERGY EFFICIENCY

213.1 *Use UFC 1-200-01, Section 2-13 and modifications below.

213.2 Higher Mandates

213.2.1 Energy meters shall be installed in accordance with UFC 1-200-02 and the U.S. Department of Energy Federal Metering Guidance (per 42.U.S.C. § 8253(e), Metering of Energy Use).

213.2.1.1 Meters shall be capable of measuring instantaneous energy rate and total energy consumption in 15-minute intervals. Meters measuring flow shall have an accuracy of +-1.5% or lower throughout their required operating range.

213.2.1.2 Meters shall be BACnet and ModBus compatible.

213.2.1.3 Meters shall be integrated into the FRCS in accordance with Section 236.0. For the Mark Center, meters shall be connected to existing FRCS infrastructure.

214.0 CHAPTER 14 – EXTERIOR WALLS

214.1 Use UFC 1-200-01, Section 2-14.

215.0 CHAPTER 15 – ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

215.1 Use UFC 1-200-01, Section 2-15 and modifications below.

215.2 Guardrails shall be provided on all sides of roofs where roof access is required for maintenance tasks and elevation from lower levels exceeds 4 ft.

216.0 CHAPTER 16 – STRUCTURAL DESIGN

216.1 Use UFC 1-200-01, Section 2-16.

217.0 CHAPTER 17 – SPECIAL INSPECTIONS AND TESTS

217.1 Use UFC 1-200-01, Section 2-17.

218.0 CHAPTER 18 – SOILS AND FOUNDATIONS

218.1 Use UFC 1-200-01, Section 2-18.

219.0 CHAPTER 19 – CONCRETE

219.1 Use UFC 1-200-01, Section 2-19.

220.0 CHAPTER 20 – ALUMINUM

220.1 Use UFC 1-200-01, Section 2-20.

221.0 CHAPTER 21 – MASONRY

221.1 Use UFC 1-200-01, Section 2-21.

222.0 CHAPTER 22 – STEEL

222.1 Use UFC 1-200-01, Section 2-22.

223.0 CHAPTER 23 – WOOD

223.1 Use UFC 1-200-01, Section 2-23.

224.0 CHAPTER 24 – GLASS AND GLAZING

224.1 Use UFC 1-200-01, Section 2-24

225.0 CHAPTER 25 –GYPSUM PANEL PRODUCTS, AND PLASTER

225.1 Use UFC 1-200-01, Section 2-25.

226.0 CHAPTER 26 – PLASTIC

226.1 Use UFC 1-200-01, Section 2-26.

227.0 CHAPTER 27 – ELECTRICAL

227.1 Use UFC 1-200-01, Section 2-27 and modifications below.

227.2 Use UFC 3-501-01 for general electrical requirement criteria and modifications below:

227.2.1 Add Section 2-1.1.1: Abandoned, unused or out of service electrical device/equipment shall be removed. Associated wiring shall be pulled back to source or to the nearest junction box and shall be marked as spare in junction box. All unused wiring in raceways shall be pulled back to a junction box and shall be properly be capped as per NEC.

227.2.2 Add Section 3-2.1.5: New electrical distribution equipment locations and connections shall be approved by building management.

227.3 Use UFC 3-520-05 for Stationary and Mission Batteries and modifications below.

227.3.1 Add Section 2-3.2.4 Hydrogen Detection: Provide hydrogen gas detection systems for Stationary Battery Areas. Design hydrogen gas detection systems in accordance with the manufacturer's recommendations and listings. Alarm threshold shall be set at 1 percent concentration. Hydrogen gas detection systems shall be annunciated on the Pentagon Campus' fire alarm and building automation systems as further described in Section 209.43 and Section 236.0.

227.4 Use UFC 3-520-01 for interior electrical systems criteria and modifications below.

227.4.1 Amend Section 3-1 to include the following: Interior distribution, dry type transformers shall be copper.

227.4.2 Change Section 3-2 to:

227.4.2.1 New electrical distribution equipment shall be installed in spaces controlled by building management, unless otherwise approved by building management.

227.4.2.2 Enclosures for panelboards and switchboards shall not be used as junction boxes, auxiliary gutters or raceways for conductors feeding through or tapping.

227.4.3 Change Section 3-2.2 to:

227.4.3.1 Panelboards are to be Main Circuit Breaker (MCB) type.

Exception: Unless otherwise restricted by code, Main Lug Only (MLO) type panelboards are acceptable when all of the conditions set forth in 227.4.3.1.1 - 227.4.3.1.3 are met.

227.4.3.1.1 Dedicated overcurrent protection device and disconnect device are provided for the panelboard.

227.4.3.1.2 The disconnect device for the panelboard is within sight of the panelboard.

227.4.3.1.3 The circuit distance between the panelboard and its means of disconnect is less than 25 ft.

227.4.3.2 All neutral conductors shall be dedicated to one circuit.

227.4.4 Change Section 3-6.1.2 to:

227.4.4.1 Add Section 3-6.1.2.1: General purpose convenience outlets shall not be fed from the same circuit as those listed in Section 3-6.1.2 a. through e

227.4.4.2 Delete the entire 2nd paragraph in Section 3-6.1.2 regarding controlled and non-controlled outlets.

227.4.5 Change Section 3-6.3 to

227.4.5.1 Feeders. Feeder conductors shall be sized for a maximum voltage drop of 2 percent at design load.

227.4.5.2 Branch Circuits. Branch circuit conductors shall be sized for a maximum voltage drop of 3 percent at design load. The design load shall be a minimum of 9 A.

227.4.5.3 Feeders & Branch circuits: Feeder and Branch circuit conductors shall be sized for a maximum voltage drop of 5 percent at design load. The design load shall be a minimum of 16 A.

227.4.5.4 All conductors shall be copper. Aluminum conductors shall not be permitted regardless of wire size.

227.4.6 Amend Table 3-1to include the following:

227.4.6.1 Rigid nonmetallic conduit (RNC) shall be prohibited from use above ground. Provide a transition from RNC to Rigid Metal Conduit before emerging from ground. The RMC conduits shall extend from minimum 24 in. below grade to a minimum of 12 in. above grade. Below grade RMC shall begin at the

point of vertical transition. All RMC and PVC coated rigid conduits in contact with earth or concrete shall be corrosion protected. Corrosion prevention may be manufactured or field applied.

227.4.7 Amend UFC 3-520-01 to include the following:

227.4.7.1 Polyvinyl Chloride (PVC) is not approved for electrical conduits for all interior electrical distribution on the Pentagon Reservation.

Exception: PVC conduit may be used in concrete slabs or duct banks.

227.5 Use UFC 3-530-01 for interior and exterior lighting and controls criteria and modifications below.

227.5.1 Amend UFC 3-530-01 to include the following:

227.5.1.1 *For the Pentagon Reservation, ft-candle levels shall be per Table 227.5.1.1.

Table 227.5.1.1 – Light Level Requirements

Space type	Target (FC)
Corridors	15
Private office	30 (ambient)
	50 (task)
Open office	30 (ambient)
	50 (task)
Waiting areas	10 (ambient)
	50 (task)
Conference rooms	30
Lounges	10
Office support	30 (ambient)
	50 (task)
Storage rooms	10
Mechanical/Electrical	30
Electrical closets	30
Restrooms	15
Kitchens	50
Cafeteria	15
	50
Enlisted dining rooms	15
	50
Officer dining rooms	15
	50
Indoor Pool	30
Indoor basketball	30
Locker Rooms	10
Retail	40
Command and Operation Center	46
TC Closets	50
Communications and Equipment Closets	50
TC – Wedge Rooms (Data Center)	50
Consolidated Radio Rooms (CRR)	50

227.5.1.1.1 All target ft-candle levels stated herein are the Target Horizontal Illuminance average, unless stated otherwise, and shall be designed with a tolerance of +/- 10 percent ft-candles in accordance with UFC.

227.5.1.1.2 When space types are not identified in Table 227.3.1.1 the Illuminating Engineering Society (IES) Standard shall determine the target ft-candle levels.

227.5.1.2 For all other buildings, ft-candle levels shall follow the UFC.

227.5.2 Add Section 2-3.2: Use steel support wire on at least all 4 corners to support the light fixtures from the building structure. Exceptions to this are on a case by case basis when there is a conflict with the other trades. In hard ceiling areas, the fixture shall be secured to the framing members with screws.

227.5.3 Add Section 2-3.3: Fixtures of Sizes Less Than Ceiling Grid: Arrange as indicated on reflected ceiling plans or center in acoustical panel, and support fixtures independently with at least two 3/4 in. metal channels spanning and secured to ceiling tees.

227.5.4 Add Section 2-7.3: Illumination for Electrical Rooms, Mechanical Rooms, Electrical Switchgear Rooms and Electrical Vaults shall be provided in accordance with the requirements set for forth for illumination of means of egress in NFPA 101, Sections 7.8 and 7.9.

227.5.5 Interior lighting shall be designed and installed to meet the requirements of UFC 3-530-01. The supplemental requirements below shall take priority over conflicting UFC requirements.

227.5.6 Change Section 2-2.1 to: Light emitting diode (LED) technology shall be used for new general overhead interior lighting or replacement of existing general overhead interior lighting systems. FOG and SCD shall be consulted in consideration of LED lighting options

227.5.7 Change Section 2-1.4.6.1 to: All interior lighting shall have a correlated color temperature (CCT) of 3500K.

227.5.7.1 Lighting systems shall meet the lighting levels required in UFC 3-530-01, as amended by Table 227.5.1.1 of this code.

227.5.8 T-LEDs and fluorescent lamps are not permitted.

227.5.9 Add Section 2-8.3: Back-up power for emergency lighting and exits signs shall be fed from life safety power circuits.

227.5.10 Add Section 2-8.4: For remote buildings and structures where no life safety power circuits are provided, back-up power for emergency lighting and exit signs may use local batteries.

227.5.11 Add Section 2-2.3: Wall mounted occupancy sensors and vacancy sensors are not permitted at the Pentagon Reservation.

227.5.12 Add Section 2-2.4: Ceiling mounted occupancy sensors and vacancy sensors are not required if the facility operates on a regular time schedule.

227.5.13 Amend Section 4-2.1.2 to include the following: Use a color rendering index (CRI) of no less than 70 and a correlated color temperature (CCT) of 5000K for exterior applications.

227.6 Use UFC 3-550-01 for exterior power distribution systems criteria and modifications below.

227.6.1 Amend Section 3-11.8 "Medium Voltage Cable" to include the following:

- No aluminum medium voltage cable shall be used.
- All 5 kV and 15 kV medium voltage cables shall be copper conductor, type MV (105 ºC). The insulation type shall be ethylene propylene rubber (EPR) and the insulation level for all classification of circuits shall be 133 percent.

227.6.2 Replace Section 3-11.2.2 for all electrical ductbanks as follows:

a. For primary distribution circuits, provide spare conduits such that at least 1/3 of the ductbank contains empty conduits with a minimum of at least one spare conduit.

b. For secondary distribution circuits, provide spare conduits such that at least 1/3 of the ductbank contains empty conduits with a minimum of at least one spare conduit.

c. Use directional boring or jack-and-bore techniques for routing conduit(s) under existing pavement for roadways, aircraft aprons, runways and taxiways. Directional boring can be used for other locations where excavation can adversely affect daily operations. Directional boring shall require one extra conduit per bore.

d. Exterior ductbanks (2 or more conduits in the same run) shall be concrete encased, except for Directional Boring.

e. All 480 volt distribution and medium voltage conductors shall be run in conduits and be concrete encased.

f. The concrete for the electrical duct banks shall be dyed red.

227.6.3 PVC conduits shall be transitioned to galvanized rigid metal conduit (RMC). The RMC conduits shall extend from minimum 24 in. below grade to a minimum of 12 in. above grade. Below grade RMC shall begin at the point of vertical transition. All RMC conduits in contact with earth or concrete shall be corrosion protected. Corrosion prevention may be manufactured or field applied.

227.6.4 Add Section 3-20: Outdoor Electrical Panel Enclosures

a. All outdoor electrical structures/enclosures containing electrical equipment shall have a minimum NEMA 3R enclosure rating.

b, All outdoor electrical equipment (except Transformers) and enclosures containing electrical equipment directly exposed to a corrosive environment shall be Corrosion Resistant, NEMA 4X enclosure rated.

c. Install pull wire, string, or tape in all newly installed conduit runs that exceed 100 ft. Pull wire shall be secured at both ends, with minimum of 12 in. slack. Label shall be attached identifying opposite end's location.

227.6.5 Provide a transition from RNC to Rigid Metal Conduit before emerging from ground/grade. The RMC conduits shall extend from minimum 24 in. below grade to a minimum of 12 in. above grade. Below grade the RMC shall begin at the point of vertical transition. All RMC conduits in contact with earth or concrete shall be corrosion protected. Corrosion prevention may be manufactured or field applied.

227.7 Use UFC 3-560-01 for electrical safety and electrical O&M criteria except as modified below:.

227.7.1 ∗Provide arc flash warning labels on electrical equipment likely to require examination, adjustment, servicing, or maintenance while energized. Some typical types of equipment include pad-mounted transformers, switchgear, switchboards, panelboards, disconnect switches, industrial control panels, meter socket enclosures, and motor control centers that are in other than dwelling occupancies. Provide labels in accordance with the detailed arc flash warning labels specified by NFPA 70E, Article 130.5(H) in lieu of general warning labels as provided by UFC 3-560-01, Section 1-12.

227.8 Use UFC 3-580-01 for interior telecommunications criteria.

227.9 Use UFC 4-021-01 for mass notification systems criteria.

227.10 Modifications to NFPA 70 – The National Electric Code (NEC):

227.10.1 Amend Article 760.30 to include the following: Junction box covers for fire alarm system conduit shall be colored red.

227.10.2 Replace NEC Article 110.26(E)(1)(b) Foreign Systems in Dedicated Equipment Space as follows: The area above the dedicated electrical space required by 110.26(E)(1)(a) shall not be permitted to contain any liquid-carrying piping or systems. Piping or duct systems foreign to the electrical installation shall not enter or pass through an electrical room except for fire protection and HVAC systems.

227.11 Cable/Conductor Labeling

a. All electrical conductors shall be individually labeled at all accessible locations to include but not limited to inside junction boxes, manholes, handholes, panelboards, switchboards, switchgears, disconnects, and equipment connection points as follows:

b. Electrical feeders shall be labeled with the same identification number as labeled on its associated overload protection and with the identification of the equipment being fed.

c. Branch circuits shall have the same identification number as labeled on its associated overload protection.

d. All labels shall be permanent and designed to be used for its intended application. All labels for feeders or branch circuits in handholes, manholes, or other subsurface applications shall be listed/rated as submersible.

e. All labeling locations to have a minimum 1/2 in. labels with 1/4 in. bold text. Conductors for underground / wet location shall use stainless steel 1/2 in., secured with nylon cable ties.

227.12 Cable/Conductor Splices

a. All underground electrical cable splices shall be placed in electrical Boxes/Raceways, either handholes or above ground tap boxes (NEMA rated for location). Splices shall be Mechanical wire connectors UL listed for submersible application per UL 486D (abrasion and chemical resistant, cold temperature rated to -45 ºC, rated for 600V, 90 ºC. copper conductors) and shall require no taping, compounds, heat shrink, or cutting to size in the field.

b. All electrical cable splices above ground shall be performed using Mechanical wire connectors listed for damp/wet location.

228.0 CHAPTER 28 – MECHANICAL SYSTEMS

228.1 Use UFC 1-200-01, Section 2-28 and modifications below. Use UFC 3-410-01, Chapter 2 – General Design Requirements, as modified below:

228.2.1 Mechanical appliances and equipment shall be US EPA ENERGY STAR, US DOE FEMP-designated products or shall have an equal or greater efficiency based on life cycle cost.

228.2.2 Add UFC 3-410-01 Section 2-2.1 as follows: Duct Shop Drawings - Duct shop drawings shall be approved by the designer of record and provided to the Government for review and acceptance.

228.2.2.1 Use UFC 3-400-02 to access climatological data for use in designing mechanical systems.

228.2.3 Terminal Units

228.2.3.1 Terminal units shall only be permitted to serve offices located within the suite the terminal unit is installed, unless otherwise permitted below:

228.2.3.1.1 Terminal units located in public corridors may serve offices within the suite that the terminal unit's thermostat is located.

228.2.3.1.2 *Terminal units may serve more than one office within a suite as long as their thermal loads are similar.

228.2.3.2 All new terminal units shall be furnished with sensors capable to measure CO2 concentration, relative humidity level, occupancy, and zone temperature. Sensors installed for this application shall communicate with the unit’s controller over Cat6 cable or as approved by building management and shall be able to operate over a shared communication trunk with other sensors installed in additional zones served by the same terminal unit

228.2.3.3 Conference rooms, teaming rooms, and similar collaboration spaces with over five occupants shall have a dedicated terminal unit. This unit shall be activated by a zone temperature sensor, a relative humidity sensor, and an occupancy sensor. Ventilation air shall be controlled by a local CO2 sensor and shall be set to the default minimum airflow as required by this code.

228.2.3.3.1 *New thermal load calculations, ventilation calculations, re-balancing and sequence of operation modifications shall be performed in the event of construction, alteration or modification that entail heat load change or space pressurization changes.

228.2.3.4 All new terminal units shall be sized to have a minimum of 20% spare capacity.

228.2.3.5 Fan-powered induction units shall be provided with a minimum of MERV-13 air filters.

228.2.4 Protection from damage

228.2.4.1 Equipment and appliances shall not be installed in a location where subject to mechanical damage unless protected by approved barriers.

228.2.4.2 Barriers shall not obstruct maintainable areas of equipment and appliances.

228.2.5 Valves shall be readily accessible or accessible by a means that first requires the removal or movement of a panel, door or similar obstruction and/or reached from the ground, a ladder, or approved platform.

228.2.6 Piping 4 in. and smaller may be ASTM B 88 Type K or L copper. Press fit type mechanical connections shall be permitted for use with copper pipe and tube of sizes 4 in. and smaller.

228.2.7 Joints on steel and stainless steel pipe greater than 2 in. shall be welded.

228.2.8 Fittings for steam condensate lines shall be of Schedule 80 steel.

228.2.9 Elbows for steam condensate lines shall be of a long radius type.

228.2.10 All equipment and appliances that produce 12,000 BTUH or more of rejected heat shall reject that heat into the HVAC Chilled Water/Blended Chilled Water Loop.

228.2.11 Amend UFC 3-410-01, Section 2-9.1 Variable Speed Drives to include the following:

Measures shall be taken to protect pump motors from stray current migration through pump motor bearings on pumps equipped with VFDs.

New Variable Frequency Drive (VFD) assemblies shall have the following characteristics: The enclosures shall be NEMA 12 rated. The VFDs shall be equipped with a mechanical selector (HOA) providing the operator the ability to select between Drive, Bypass or Test mode. The bypass mode shall operate independently from the VFD. The assembly shall provide the operator the ability to remotely command the motor to start or stop in either mode, Drive or Bypass. The VFDs shall accept an analog signal of 0 to 10 VDC as external speed reference and an external binary signal as start/stop command. The VFDs shall be equipped with a serial communication board compatible with an existing facilities FRCS and BACNet protocols. The VFDs and bypass circuit shall be independently fused. The bypass circuit shall be equipped with motor overload protection. Bypass for motors 25 HP and larger shall be equipped with a solid state soft starter. The VFD shall be able to provide its internal thermal status over the existing facilities FRCS and BACNet.

228.2.12 Actuators

228.2.12.1 All electronic valve or damper actuators shall be equipped with position feedback terminals, analog feedback for proportional applications and binary feedback for two-position applications.

228.2.12.2 The position signals shall be wired back to the field controller controlling the actuator in question or its associated expansion modules.

228.2.12.3 The position signal feedback points shall be mapped to the FRCS user interface and be compared to the respective command signal for the actuator.

228.2.12.4 An alarm shall be generated in the event the position signal does not match its respective command signal.

228.2.13 When making changes to a system or space that falls outside of the design constraints under which the system or space was constructed, a redesign shall take place.

228.2.14 AHUs shall be designed for HEPA filtration in the main return air ducts of the AHUs transferring air from the occupied spaces. The return air fans shall be sized with sufficient capacity to maintain the design flow rate across the filter while sustaining a static pressure drop not to exceed 1 in. wg. The filter status shall be monitored by the field gauges or manometers which shall be integrated with the FRCS in accordance with WHSBC Section 236.0.

228.2.15 Filter banks in the AHUs shall be sized to allow the full design rated flow without causing a static pressure drop higher than 0.5 in. wg under normal operating conditions.

228.2.16 Where inspection ports are required on ductwork penetrating SCIF walls, access doors shall be placed on the underside of all horizontal HVAC ductwork to allow for visual inspection of the bars, grilles, or metal baffles/wire frames. Access door size shall be a minimum of no less than 16 by 18 in. or 2 in. smaller than the dimensions of the ductwork. For all configurations of HVAC ductwork, access doors shall be placed at accessible locations for inspections to be conducted.

228.3 Use UFC 3-410-01, Section 3-2.3 – “IMC Chapter 3 – General Regulations” as modified below:

228.3.1 Abandoned, unused or out of service mechanical systems, equipment, distribution material and supporting infrastructure shall be demolished to the nearest source and completely removed.

228.3.2 ABS, PVC, CPVC, PP, PE, PB, PEX-AL-PEX, PEX-AL-HDPE, PE-AL-PE, PE-RT, and PEX pipe, tube or hose is not permitted for use within a structure. Galvanized pipe is not permitted for use on WHS owned property.

228.3.2.1 PVC hoses such as "BEVLEX" may be used downstream of the backflow preventer in soda fountain applications. Developed lengths greater than 5.0 ft shall be run end to end through EMT.

228.3.2.2 Pipe, tube, and hose consisting of the above materials shall be permitted when installed by a manufacturer as part of a listed and labeled assembly.

228.3.3 Labeling of distribution pipe

228.3.3.1 Labeling of distribution pipe shall follow ANSI/ASME A13.1.

228.3.3.2 Identification markings intervals on the pipe shall not exceed 25 ft.

228.3.3.3 Pipe labeling shall consist of one rectangular label noting pipe content, and a ring of flow arrows on each side of the description noting direction of flow, both conforming to ANSI/ASME A13.1.

228.3.3.4 Flow arrows shall wrap over the description label ends and also wrap around itself by at least 2 in. to ensure a good bond.

228.3.3.5 At least one identification label shall be provided on each pipe in each room, space or story.

228.3.3.6 Pentagon Campus – Pipe labeling on the Pentagon Campus shall follow Table 228.3.3.6 or otherwise approved by the BCO.

Table 228.3.3.6 - Color Coding of Distribution Piping

Wording	Label Color	Letter Color
CHILLED WATER SUPPLY	Green	White
CHILLED WATER RETURN	Green	White
BLENDED CHILLED WATER SUPPLY	Green	White
BLENDED CHILLED WATER RETURN	Green	White
MC CHILLED WATER SUPPLY	Green	Red
MC CHILLED WATER RETURN	Green	Red
CONDERSER WATER	Lt. Green	White
CONDENSATE	Gray	White
HEATING HOT WATER SUPPLY	Lt. Orange	Black
HEATING HOT WATER RETURN	Lt. Orange	Black
BLENDED HOT WATER SUPPLY	Lt. Orange	Black
BLENDED HOT WATER RETURN	Lt. Orange	Black
HIGH PRESSURE STEAM	Orange	Black
MEDIUM PRESSURE STEAM	Orange	Black
LOW PRESSURE STEAM	Orange	Black
STEAM CONDENSATE	Orange	Black
FUEL OIL	Brown	White

228.3.3.6.1 When pipe is installed in an existing space, the existing label color scheme shall be applied to the new work.

228.3.3.7 Mark Center - Reserved

228.3.4 Amend IMC, Section 303.1 to include the following: When locating mechanical appliances and equipment that require maintenance and repair, the manufacturers' recommended clearances shall be maintained, along with a 3 ft working clearance around the appliance and/or equipment.

228.3.5 Amend IMC, Section 303 to include the following:

303.10 Confined Space. If equipment and appliances are to be located in a confined space then that equipment shall be provided with a means of removal so that a person is not required to maintain or repair said equipment and/or appliance within the confined space.

303.11 Secure Space. Equipment and appliances shall not be located in a manner that requires a person to pass through a secure space to gain access.

303.12 Designated Path. When locating equipment and appliances a designated path of travel is required. This designated path of travel shall be sized so that the equipment is able to be moved from its installed location to a location outside of the facility without the demolition of existing passageways.

228.3.6 Add IMC Section 307.4 Condensate Drain Pans: All condensate drain pans installed on HVAC equipment and appliances shall be constructed of stainless steel.

228.3.7 Replace IMC Section 307.2.1 as follows: Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to a properly sized trap and indirectly discharge to the nearest storm drain. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance."

228.4 Use UFC 3-410-01, Section 3-2.6 – "IMC Chapter 6 – Duct Systems" as modified below.

228.4.1 *Delete IMC, Section 602.3.4.

228.4.2 *Amend IMC Section 603.2 to include the following: 603.2.1 Transfer Duct. Transfer ducts shall be sized with maximum velocity of 500 FPM. Provide Z or U duct air transfers in noise sensitive areas.

228.5 Use UFC 3-410-01, Section 3-2.11 - "IMC Chapter 12 – Hydronic Piping" as modified below.

228.5.1 *Amend IMC Section 1206.2 to include the following: 1206.2.1 Riser drain down. Isolation valves and drain connections shall be installed at the low point of every water distribution riser.

228.5.2 Replace IMC Section 1208.1 as follows:

1208.1 General. Hydronic piping systems other than ground source heat pump loop systems shall be tested hydrostatically at one and one half times the maximum system design pressure. Hot and chilled water piping shall be tested at a minimum of 135 psi. High pressure steam and condensate piping shall be tested at 150 psi. Low pressure steam and condensate piping shall be tested at 45 psi. The duration of each test shall be not less than 1 hour. Ground-source heat pump loop systems shall be tested in accordance with Section 1208.1.1.

1208.1.1 Ground source heat pump loop systems. Before connection (header) trenches are backfilled, the assembled loop system shall be pressure tested with water at 100 psi for 30 minutes with no observed leaks. Flow and pressure loss testing shall be performed and the actual flow rates and pressure drops shall be compared to the calculated design values. If actual flow rate or pressure drop values differ from calculated design values by more than 10 percent, the problem shall be identified and corrected.

1208.1.2 Stress due to pressure at bottom of vertical runs shall not exceed either 90 percent of specified minimum yield strength or 1.7 times "SE" value in Appendix `A' of ASME B31.9, "Building Services Piping.".

1208.1.3 Hydrostatic pressure tests are not required for HVAC condensate drain piping.

228.5.3 Globe valves for process control applications shall not be permitted on pipes larger than 2 in.

228.6 Modifications to the 2024 edition of the IFGC are as follows:

228.6.1 Gas Leak Detection

228.6.1.1 A natural gas leak detection system shall be provided for the entire length of natural gas piping through an enclosed structure. This leak detection system shall be integrated with the FRCS in accordance with Section 236.0 and the Fire Alarm System in accordance with Section 209.43.

228.6.1.2 *Carbon Monoxide (CO) detectors are required in any enclosed area that lacks ventilation and is subject to tasks involving the generation of CO. The CO detection shall be tied into the facilities FRCS in accordance with Section 236.0 and the Fire Alarm System in accordance with Section 209.43. CO detectors shall meet the requirements of the NFPA 720.

228.6.1.3 Refrigerant detectors shall be installed in accordance with ASHRAE Standard 15. Refrigerant detectors shall be tied into the facilities FRCS in accordance with Section 236.0

228.6.1.4 Hydrogen detectors see Section 227.3.

228.6.2 Replace IFGC Section 401.5 as follows:

228.6.2.1 Gas pipe shall be painted yellow along its entire run.

228.6.2.2 Gas pipe shall be labeled in accordance with ANSI A13.1 at intervals not exceeding 5 ft.

228.6.2.2.1 Pipe label shall consist of 1 rectangular label noting pipe content, and a ring of flow arrows on each side of the description noting direction of flow, both conforming to ANSI A13.1.

228.6.2.2.2 Flow arrows shall wrap over the description label ends and also wrap around itself by at least 2 in. to ensure a good bond.

228.6.3 *Replace IFGC 406.4.1 as follows: The test pressure to be used shall be no less than 1 1/2 times the proposed maximum working pressure, but not less than 50 psi, irrespective of design pressure. Where the test pressure exceeds 125 psi, the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe.

228.6.4 *Replace IFGC 406.4.2 as follows: Test duration shall be not less than 1/2 hour for each 500 ft^3 of pipe volume or faction thereof. Test duration shall be not less than 1 hour. The duration of the test shall not be required to exceed 24 hours.

229.0 CHAPTER 29 – PLUMBING SYSTEMS

229.1 Use UFC 1-200-01, Section 2-29 and modifications to UFC 3-420-01 below.

229.2 Modify UFC 3-420-01, Section 4-4 - IPC Chapter 3 – General Regulations as follows:

229.2.1 Add IPC Section 301.10 Identification on the Pentagon Reservation:

301.10 Identification on the Pentagon Reservation. Plumbing infrastructure on the Pentagon Reservation shall be identified in accordance with the following requirements.

301.10.1 Labeling of distribution pipe. Labeling of distribution pipe shall follow the recommendations of ANSI-A13.1 with the following modifications.

a. Identification markings intervals on the pipe shall not exceed 25 ft.

b. Pipe labeling shall consist of one rectangular label noting pipe content, and a ring of flow arrows on each side of the description noting direction of flow, both conforming to ANSI-A13.1.

c. Flow arrows shall wrap over the description label ends and also wrap around itself by at least 2 in. to ensure a good bond.

d. At least one identification label shall be provided on each pipe in each room, space or story.

e. The color coding of distribution systems on the Pentagon Reservation shall follow Table 301.10.1. Labeling for distribution pipe not included in Table 301.10.1 shall be approved by the Building Code Official.

f. When pipe is installed in an existing space, the existing label color scheme shall be applied to the new work.

Table 301.10.1 - Color Coding of Distribution Piping

Wording	Label Color	Letter Color
DOMESTIC COLD WATER	Blue	White
DOMESTIC HOT WATER	Blue	White
DOMESTIC HOT WATER RETURN	Blue	White
CHILLED DRINKING WATER	Lt. Blue	White
IRRIGATION WATER	White	Black
SANITARY SEWER	Black	White
GREASE WASTE	Black	White
STORM SEWER	Gray	White
NATURAL GAS	Yellow	Black

301.10.2 Asset Identification. Equipment and appliances on the Pentagon Reservation shall be identified in accordance with the Pentagon Equipment Labeling Standard.

229.2.2 Add IPC Section 301.11 General Policy:

229.2.2.1 *Design.

229.2.2.2 Reliability. Where interruption of a service cannot be tolerated or where failure of a system would drastically reduce the efficiency of a facility, provide dual-fuel capability and/or redundant system components.

229.2.2.3 *Piping arrangement. Conceal piping in permanent-type structures. In limited life structures, piping may be installed exposed, except when specific project criteria justify concealment or where concealment does not increase the cost of the project. Exposed piping attached to or near fixtures or equipment, or subject to high heat or frequent washing, must be copper, brass, or chromium plate. Other exposed piping shall be primed with paint suitable for metal surfaces and finish-paint with color to match background. Arrange piping runs to minimize interference with personnel and equipment. Critical piping services shall meet the requirements of UFC 4-010-01 *DoD Minimum Antiterrorism Standards for Buildings*.

229.2.2.4 Siting. Site and design buildings so that sewers and water mains do not need sewage lift stations or water booster pumps. Where not possible approval of the AHJ is required to allow sewage lift stations or water booster pumps.

229.2.2.5 Existing conditions. All abandoned, unused or out of service plumbing systems, equipment, distribution material and supporting infrastructure shall be demolished to the nearest source and completely removed.

229.2.2.6 Metering. Water meters shall be installed in accordance with UFC 1-200-02 and the U.S. Department of Energy Federal Metering Guidance. Meters shall be capable of measuring instantaneous flow rate and total flow in 15-minute intervals. Meters shall have an accuracy of +-1.5% or lower throughout their required operating range. Meters shall be integrated into the FRCS in accordance with Section 236.0.

229.2.2.7 All FRCS work shall comply with BACnet ASHRAE/ANSI Standard 135 and ISO 16484-5 and the following requirements.

a. Plumbing equipment with the capability of being remotely monitored or controlled shall be connected to the FRCS

b. Any new FRCS connection or component to an existing system must be compatible with the system controller.

c. Device controllers through the field level controllers to the FRCS supervisory user interface shall be functional at the time of commissioning of the controlled equipment.

d. New control systems shall communicate with the main FRCS supervisory user interface via BACnet protocol.

e. New field controller devices utilized to control the equipment described in Section 229.2.2.7 shall be required to have the native capability of communicating with their respective supervisory systems over BACNet/IP or BACNet/MS-TP over the related serial communication bus available in the vicinity of the equipment. The facility management office responsible may approve the utilization of gateways as a means of protocol translation when the field equipment controller supplied as an integral part of the equipment is not equipped with the native capability of communicating on any of the above mentioned protocols.

f. For connection to existing systems, the building management office responsible will identify the building point of connection to the system through a request for information from the Contractor.

g. The FRCS shall be analyzed for network connectivity and control capacity in order to provide all necessary infrastructure and programming to connect systems and equipment in a manner consistent with established standards.

229.2.2.8 All equipment and appliances that produce 12,000 BTUH or more of rejected heat shall reject that heat into the HVAC Chilled Water/Blended Chilled Water Loop.

229.2.3 Add IPC Section 301.12 Design Analysis:

229.2.3.1 Design analysis. The Design Analysis shall consist of a Basis of Design Narrative and Calculations demonstrating compliance with all UFC requirements.

229.2.3.1.1 Basis of design narrative requirements. In addition to the Basis of Design Narrative requirements indicated in 3-401-01, provide the following:

229.2.3.1.1.1 Design criteria. Identify the governing codes and criteria, being used for the design. Include the titles and the date of the latest edition or publication. References to codes and criteria should be made in the narratives of the “Basis of Design”.

229.2.3.1.1.2 Design conditions. Provide the interior design conditions, to include the following:

(1) Building population (number of males and number of females).

(2) Plumbing fixture determination, listing quantity and types of fixtures.

(3) Fixture units for drainage, venting, cold and hot water piping.

(4) Roof areas used in determining storm drainage pipe sizes.

(5) Capacities of all equipment and tanks.

229.2.3.1.1.3 Water quality. A water quality analysis will be performed and results included.

229.2.3.1.1.4 Legionnaire’s Disease. Include the rational analysis conducted by the Designer of Record documenting the consideration decision process on the incorporation of ASHRAE 12 recommendations.

229.2.3.1.1.5 Metering. Provide a description of the facility water metering and reporting strategy.

229.2.3.1.1.6 Sustainable design. Briefly describe all energy and water conservation features, systems, and components used in the project and the expected energy savings in accordance with UFC 1-200-02 calculation requirements, include the measures taken to reduce the indoor water use baseline by 20 percent. Describe all features being used for sustainability credits and include the applicable completed forms.

229.2.3.1.1.7 Service water heating system. Provide a description of the service water heating system proposed, including an explanation and cost analysis of why this system is preferred over other alternatives. Indicate locations of major components of the system.

229.2.3.1.1.8 Service water cooling system. Provide a description of the service water cooling system proposed, including an explanation and cost analysis of why this system is preferred over other alternatives. Indicate locations of major components of the system.

229.2.3.1.1.9 Control system. Briefly describe the control system type and its functions.

229.2.3.1.1.10 Energy conservation. Provide completed compliance forms provided in ANSI/ASHRAE/IESNA Standard 90.1 User’s Manual and any additional documentation to support compliance with this Standard and compliance with UFC 1-200-02 requirement to design buildings 30 percent below ASHRAE 90.1,

including a narrative describing the method of compliance, descriptions of building systems and components to be incorporated, and computer analysis discussion, input and output. Provide a signed statement by a registered mechanical engineer indicating compliance with ANSI/ASHRAE/IESNA Standard 90.1.

229.2.3.1.2 *Calculations. In addition to the calculations and analysis requirements indicated in UFC 3-401-01, provide the following. Identify the source of each calculation including date of reference and chapter, paragraph or section. When tables used in the design are taken from publications, indicate the title, source, and date of the publication. Provide the model number and manufacturer of each major piece of equipment for which space was allocated.

229.2.3.1.2.1 Water conservation. Per Section **Error! Reference source not found.**, calculate the indoor water use baseline, measured in gallons per gross ft^2, for the building after meeting the Energy Policy Act of 1992, and the International Plumbing Code 2006 fixture performance requirements.

229.2.3.1.2.2 Life cycle cost analysis (LCCA). Provide an analysis of all equipment either heating or cooling potable water. The analysis shall conform to the life cycle cost and energy criteria specified in UFC 1-200-02. This calculation shall also factor in projected maintenance costs.

229.2.3.1.2.2.1 Service water heating. Per UFC 3-420-01, provide a LCCA evaluating alternative energy source options, such as electric, steam, oil-fired, and gas-fired service water heater.

229.2.3.1.2.2.2 Solar water heating. Per UFC 3-420-01, include the life cycle cost analysis justifying the use or nonuse of solar hot water heaters on a project.

229.2.3.1.3 Equipment sizing calculations. Provide equipment sizing calculations and charts, if applicable, to justify the selection of equipment, including the following:

(1) Pumps.

(2) Control valves and dampers.

(3) Meters and metering devices.

(4) Domestic Water Chillers.

(5) Domestic Water Heaters.

229.2.3.1.4 System sizing calculations. Provide system sizing calculations for all supply and return piping systems.

229.2.4 Amend Section 5-2 Final Drawing Requirements to include the following:

229.2.4.1.1 Site work. Show the type and routing of the water source on the drawings. Exterior above and below grade water distribution plans shall be accompanied by profile drawings. Profile drawings must clearly depict all other utilities in the proximity of the new work.

229.2.4.1.2 Floor plans. Show control device locations on the plans.

229.2.4.1.2.1 *Equipment room plans. Equipment rooms shall be drawn at no less than 1/4 in. = 1 ft-0 in. (1:50). Congested mechanical rooms shall be drawn at no less than 1/2 in. = 1 ft-0 in. (1:20).

229.2.4.1.3 Schematic diagrams. Provide a 3-dimensional isometric diagram representing the equipment room piping and a 2-dimensional diagram indicating the entire system. Indicate shutoff valve locations to allow replacement of control valves and system components.

229.2.4.1.4 Control valves schedule. Provide flow rates, minimum Cv or maximum pressure drop, nominal valve size, service (i.e. domestic chilled water, domestic hot water, etc.), configuration (i.e. 2-way or 3-way), and action (i.e. modulating or 2-position).

229.2.4.1.5 *Metric valve coefficient. The English version Cv shall not be used on a metric project.

229.2.4.1.6 Vibration isolator schedule. Where vibration and/or noise isolation is required, provide a vibration isolator schedule on the drawings indicating type of isolator, application, and deflection in in.

229.2.4.1.7 Fouling factors. Indicate fouling factors for all water-to-air and water-to-water heat exchangers (i.e. coils, converters, chillers, etc). Indicate in the appropriate equipment schedule. Fouling factors must be accompanied with their appropriate English or SI units.

229.2.4.1.8 Sequence of operations. The designer shall provide a sequence of operations that includes a step by step instruction for all anticipated modes of water heating and cooling system operations to include unoccupied periods.

229.2.4.1.9 Control diagrams. Provide for all Plumbing systems with a FRCS integration requirement. Show system control schematics for the sequence of operation specified above on the drawings for each system. Show controller functions, such as normally open (NO), normally closed (NC), common (C), etc. Indicate all set points. Describe all controlled equipment operating modes, sequence of events, set points, and alarms. For Direct Digital Control (DDC) systems, include an input/output points list and a system architecture schematic.

229.2.4.1.10 Cold water make-up. Detail all accessories, to include pressure reducing valves (PRV), relief valves, and backflow preventers. Show pressure reducing and relief valve pressure settings.

229.2.4.1.11 Flow and slope arrows. Indicate the flow direction of pipe on the drawings. Show slope direction and rate of slope on all piping systems.

229.2.4.1.12 Guides for piping. Show pipe guide locations on all aboveground anchored piping.

229.2.4.1.13 Pipe anchors. Show anchor locations on plans. Provide anchor detail(s).

229.2.4.1.14 Pressure gauges. Indicate pressure gauge ranges; system operating pressures shall be midrange on the graduated scale.

229.2.4.1.15 Air vents. Show location of air vents required in piping systems.

229.2.4.1.16 Balance valves. Contract drawings shall specify the valve size and flow for each application. When an existing system is modified, provide all information required for re-balancing in the construction documents. Detail installation of all flow control balancing valves.

229.2.5 Add IPC Section 303.3.1 Prohibited Installation:

303.3.1 Prohibited Installation. ABS, PVC, CPVC, PP, PE, PB, PEX-AL-PEX, PEX-AL-HDPE, PE-AL-PE, PE-RT and PEX pipe, tube or hose is not permitted for use within a structure.

Exception: Pipe, tube, and hose consisting of the above materials shall be permitted when installed by a manufacturer as part of a listed and labeled assembly. PVC hoses such as "BEVLEX" are permitted downstream of the backflow preventer in soda fountain applications. Developed lengths greater than 5.0 ft shall be run end to end through EMT.

303.3.2 Installation of unshielded rubber blind caps, couplings, and all other associated unshielded rubber fittings are prohibited."

229.2.6 Add IPC Section 303.6 Galvanized pipe: Galvanized pipe is not permitted.

229.2.7 Add IPC Section 305.7.1 Access: The means selected to protect the plumbing system components shall not obstruct maintainable areas of equipment and appliances.

229.2.8 Replace IPC Section 312.2 Drainage and vent water test as follows: A water test shall be applied to the drainage system either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system shall be filled with water to the point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest openings of the section under test, and each section shall be filled with water, but no section shall be tested with less than a 10 ft head of water, or 5 psi. In testing successive sections, at least the upper 10 ft of the next preceding section shall be tested so that no joint or pipe in the building, except the uppermost 10 ft of the system, shall have been submitted to a test of less than a 10-foot (3048 mm) head of water, or 5 psi. This pressure (i.e. 10-foot of hydrostatic pressure, or 4.3psi) shall be held for not less than 15 minutes, with no visible drop in water level at the over-flowed test vent pipe, and no joint leaks detected. All entrapped

air in the system shall be expelled prior to beginning the test. Once the stack is filled to 10 ft, a visual inspection shall be made.

229.2.9 *Replace IPC Section 312.3 Drainage and vent air test as follows:

312.3 Drainage and vent air test. An air test shall be made by forcing air into the system until there is a uniform gauge pressure of 5 psi or sufficient to balance a 10-in. column of mercury. This pressure shall be held for a test period of not less than 1 hour. Any adjustments to the test pressure required because of changes in ambient temperatures or the seating of gaskets shall be made prior to the beginning of the test period.

312.3.1 Plastic piping shall not be tested using air.

312.3.2 Cast iron piping shall not be tested using air."

229.2.10 Press fit type mechanical fittings shall not be used for natural gas applications.

229.2.11 Replace IPC Section 312.5 Water supply system test as follows: Upon completion of a section of or the entire water supply system, the system, or portion completed, shall be tested and proved tight under a pressure not less than 130 psi. This pressure shall be held for not less than 1 hour. The water utilized for tests shall be obtained from a potable source of supply. The required tests shall be performed in accordance with this section and IMC Section 107.

229.2.12 Replace IPC Section 312.7 Forced sewer test as follows: Forced sewer tests shall consist of plugging the end of the building sewer at the point of connection with the public sewer and applying a pressure of 50 psi greater than the operating pressure, and maintaining such pressure for 4 hours. Force main piping shall be uncovered and unconcealed for the duration of the test.

229.2.13 *Replace IPC Section 312.8 Storm drainage system test as follows:

312.8 Storm drainage system test. An air test shall be made by forcing air into the system until there is a uniform gauge pressure of 5 psi or sufficient to balance a 10-in. column of mercury. This pressure shall be held for a test period of not less than l5 minutes. Any adjustments to the test pressure required because of changes in ambient temperatures or the seating of gaskets shall be made prior to the beginning of the test period.

312.8.1 Plastic piping shall not be tested using air.

312.8.2 Cast iron piping shall not be tested using air.

229.2.14 Replace IPC Section 314.2.1 Condensate disposal as follows: Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to a properly sized trap and indirectly discharge to the nearest storm drain. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance.

229.2.15 Add IPC Section 317 Installation and Location:

317.1 General. Equipment and appliances shall be installed as required by the terms of their approval, in accordance with the conditions of the listing, the manufacturer's recommended installation instructions and this code. Manufacturer's installation instructions shall be available on the job site at the time of inspection.

317.1.1 Clearance. When installing mechanical appliances and equipment that require maintenance and repair, the manufacturers' recommended clearances shall be maintained, along with a 3 ft working clearance around the appliance and/or equipment.

317.1.2 Confined space. If equipment and appliances are to be located in a confined space then that equipment shall be provided with a means of removal so that a person is not required to maintain or repair said equipment and/or appliance within the confined space.

317.1.3 Secure space. Equipment and appliances shall not be located in a manner that requires a person to pass through a secure space to gain access.

317.1.4 Path of Travel. When locating equipment and appliances a designated path of travel is required. This designated path of travel shall be sized so that the equipment is able to be moved from its installed location to a location outside of the facility without the demolition of existing passageways.

317.2 Conflicts. Where, in any specific case, different sections of any of the referenced standards specify different materials, methods of construction or other requirements, the most restrictive requirement will govern, unless otherwise approved by the BCO.

229.3 Modify UFC 3-420-01, Section 4-5 - IPC Chapter 4 - Fixtures, Faucets and Fixture Fittings as follows:

229.3.1 Add IPC Section 401.4 Food Service: Fixtures in toilet rooms designated for use by food service employees shall be provided with hands free operation.

229.3.2 Replace IPC Table 403.1 "MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES" as follows:

Table 403.1 - Minimum Number of Required Plumbing Fixtures[a]

No.	Classification	Occupancy	Description	Water Closes (Urinals See Section 419.2)		Lavatories		Bathtubs/ Showers	Drinking Fountain[e,f] (See Section 410.1)	Other
				Male	Female	Male	Female			
1	Assembly	A-1[d]	Theaters and other buildings for the performing arts and motion pictures	1 per 125	1 per 65	1 per 200	1 per 150	-	1 per 400	1 service sink
		A-2[d]	Nightclubs, bars, taverns, dance halls and buildings for similar purposes	1 per 40	1 per 40	1 per 75		-	1 per 400	1 service sink
			Restaurants, banquet halls and food courts	1 per 75	1 per 75	1 per 200	1 per 150	-	1 per 400	1 service sink
		A-3[d]	Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, arcades and gymnasiums	1 per 125	1 per 65	1 per 200		-	1 per 400	1 service sink
			Passenger terminals and transportation facilities	1 per 500	1 per 500	1 per 750		-	1 per 400	1 service sink
			Places of worship and other religious services	1 per 150	1 per 75	1 per 150		-	1 per 400	1 service sink
		A-4	Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	-	1 per 400	1 service sink
			Locker rooms (for athletes)[i, j]	1 per 15 persons; then 1 per 20 persons, up to 95 persons; then 1 per 40 persons		1 per 15 persons; then 1 per 20 persons, up to 95 persons; then 1 per 45 persons)		1 per 15 persons when required, for population served	1 per 75; at least one per floor	1 service sink (1 per floor)

Table 403.1 - Minimum Number of Required Plumbing Fixtures[a]

No.	Classification	Occupancy	Description	Water Closes (Urinals See Section 419.2)		Lavatories		Bathtubs/ Showers	Drinking Fountain[e,f] (See Section 410.1)	Other
				Male	Female	Male	Female			
		A-5	Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	-	1 per 400	1 service sink
2	Business	B	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses, libraries, and bowling centers.	1 per 15 persons; then 1 per 20 persons, up to 95 persons; then 1 per 40 persons		1 per 15 persons; then 1 per 20 persons, up to 95 persons; then 1 per 45 persons)		1 per 15 persons when required, for population served	1 per 75; at least one per floor	1 service sink (1 per floor)
3	Educational	E	Educational Facilities	1 per 15 persons; then 1 per 20 persons, up to 95 persons; then 1 per 40 persons		1 per 15 persons; then 1 per 20 persons, up to 95 persons; then 1 per 45 persons)		1 per 15 persons when required, for population served	1 per 75; at least one per floor	1 service sink (1 per floor)
4	Factory Industrial	F-1 and F-2	Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials	1 per 15 persons; then 1 per 20 persons, up to 95 persons; then 1 per 40 persons		1 per 15 persons; then 1 per 20 persons, up to 95 persons; then 1 per 45 persons)		1 per 15 persons when required, for population served (See Section 411)	1 per 75; at least one per floor	1 service sink (1 per floor)
5	Institutional	I-1	Residential care	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		I-2	Hospitals, ambulatory nursing home care recipient	1 per room[c]		1 per room[c]		1 per 15	1 per 100	1 service sink per floor
			Employees, other than residential care[b]	1 per 25		1 per 35		-	1 per 100	-
			Visitors, other than residential care	1 per 75		1 per 100		-	1 per 500	-
		I-3	Prisons[b]	1 per cell		1 per cell		1 per 15	1 per 100	1 service sink
			Reformitories, detention centers, and correctional centers[b]	1 per 15		1 per 15		1 per 15	1 per 100	1 service sink
			Employees[b]	1 per 25		1 per 35		-	1 per 100	-

Table 403.1 - Minimum Number of Required Plumbing Fixtures[a]

No.	Classification	Occupancy	Description	Water Closes (Urinals See Section 419.2)		Lavatories		Bathtubs/ Showers	Drinking Fountain[e,f] (See Section 410.1)	Other
				Male	Female	Male	Female			
		I-4	Adult day care and child day care	1 per 15		1 per 15		1	1 per 100	1 service sink
6	Mercantile	M	Retail stores, service stations, shops, salesrooms, markets and shopping centers	1 per 500		1 per 750		-	1 per 1,000	1 service sink[g]
7	Residential	R-1	Hotels, motels, boarding houses (transient)	1 per sleeping unit		1 per sleeping unit		1 per sleeping unit	-	1 service sink
		R-2	Dormitories, fraternities, sororities and boarding houses (not transient)	1 per 5		1 per 5		1 per 3	1 per 75 persons; then 1 per 30 persons; at least one per floor	1 service sink
			Apartment house	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	-	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units
		R-3	Congregate living facilities with 16 or fewer persons	1 per 5		1 per 5		1 per 3	1 per 75 persons; then 1 per 30 persons; at least one per floor	1 service sink
			One- and two-family dwellings	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	-	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units
		R-4	Congregate living facilities with 16 or fewer persons	1 per 5		1 per 5		1 per 3	1 per 75 persons; then 1 per 30 persons; at least one per floor	1 service sink
8	Storage	S-1, S-2	Structures for the storage of goods, warehouses, storehouse and freight depots. Low and Moderate Hazard.	1 per 100		1 per 100		See Section 411	1 per 1,000	1 service sink

a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by the International Building Code.

b. Toilet facilities for employees shall be separate from facilities for inmates or care recipients.
c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted where such room is provided with direct access from each patient sleeping unit and with provisions for privacy.
d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.
e. The minimum number of required drinking fountains shall comply with Table 403.1 and Chapter 11 of the International Building Code.
f. Drinking fountains are not required for an occupant load of 15 or fewer.
g. For business and mercantile occupancies with an occupant load of 15 or fewer, service sinks shall not be required.
h. For "High hazard" occupancies involving exposure to skin contamination with poisonous, infectious, or irritating materials, provide fixture quantities as listed in "Business" occupancy, except provide lavatories at 1 per 5 persons.
i. Fixtures will be provided for swimmers only on this basis: The maximum capacity of the pool (swimmers) will equal the area of the pool in ft^2 divided by 27. Where applicable, fixtures for waders will be computed on the basis of not less than 13-1/2 ft^2 per wader instead of 27 ft^2 in depth of less than 5 ft.
j. In addition to the above fixtures, "wet toilets" required by wet swimmers and located adjacent to shower rooms will be provided as follows: One "wet toilet" for women, consisting of one water closet for 100 swimmers or less, and two water closets for over 100 swimmers. The "wet toilets" will be so placed that persons using them must pass through the shower before entering the pool.

229.3.3 Add IPC Section 413.7 Indirect waste: Floor drains that receive indirect waste shall be provided funnels to reduce splashing. If the floor drain is connected to the Sanitary System a hub adapter shall be installed to isolate it from potential grease waste on the floor. All above-ground receptor p-traps and drain piping branches that receive chilled waste water shall be insulated up to the first wye connection, to prevent condensation.

229.3.4 Amend 4-5.12, IPC Section 424.1 to include the following: Approval for use of waterless/waterfree urinals shall come from the Director, FOSD.

229.3.5 Replace IPC Section 424.2 Substitution for water closetsas follows: 419.2 Substitution for water closets. For "male only" toilet facilities, urinals may be substituted for no more than one-third of the water closets required, one for one.

229.3.6 Replace IPC Section 412.1.1 Faucets and supply fittingsas follows: 424.1.1 Faucets and supply fittings. Faucets and supply fittings shall conform to the water consumption requirements of IPC Section 401.3.

229.3.7 Add IPC Section 412.13 Vendor Operated Spaces: A check valve shall be installed on each hot and cold water line supplying a sink in a vendor operated space. Check valves shall be installed on the supply line immediately before the fixture, or be integral to the fixture.

229.3.8 Add IPC Section 414.2 Indirect waste: Floor sinks receiving indirect waste shall be provided a grate with a manufacturer provided opening large enough to allow all waste run to the floor sink to pass through.

229.4 Modify UFC 3-420-01, Section 4-6 - IPC Chapter 5 – Water Heaters as follows:

229.4.1 Amend IPC Section 502.1 to include the following: Control of scale formation shall be provided with central water treatment on the hot-water system. This system will be in accordance with UFC 3-230-03 Water Treatment.

229.5 Modify UFC 3-420-01, Section 4-7 - IPC Chapter 6 – Water Supply and Distribution as follows:

229.5.1 Replace IPC Section 605.2 Lead content of water supply pipe and fittingsas follows: Pipe and pipe fittings, including valves and faucets, utilized in the water supply system shall have a maximum of 0.25-percent lead content

229.5.2 Replace IPC Section 605.6 Flexible water connectorsas follows: Flexible water connectors exposed to continuous pressure shall conform to A112.18.6/CSA B125.6 and shall be of the appropriate length as to make an uninterrupted connection between the water supply stub-out, and fixture of equipment. Access shall be provided to all flexible water connectors.

229.5.3 Add IPC Section 605.12.2.1 and 605.12.2. Press fit type mechanical connections:

"605.12.2.1 Piping 4 in. and smaller may be ASTM B 88 Type K or L copper. Press fit type mechanical connections shall be permitted for use with copper pipe of sizes 4 in. and smaller."

605.12.2.2"Press fit type mechanical fittings shall not be used for drain/waste applications, other than couplings installed for repair purposes only."

229.5.4 Add IPC Section 605.13.4.1 Press fit type mechanical connections: Press fit type mechanical connections shall be permitted for use with copper tube of sizes 4 in. and smaller.

229.5.5 Delete IPC Section 605.17 Steel in its entirety.

229.5.6 Amend IPC Section 605.22 Stainless steel: Pipe of diameter greater than 2 in. shall be welded.

229.5.7 Add IPC Section 606.2.1 Fixture Shutoff Valves: Fixture shutoff valves in public areas and leased commercial spaces shall be of the keyed type.

229.5.8 Replace IPC Section 606.3 Access to valves as follows: Valves shall be readily accessible or accessible by a means that first requires the removal or movement of a panel, door or similar obstruction and/or reached from the ground, a ladder, or approved platform.

229.5.9 Add IPC Section 606.4.1 and 606.4.2:

606.4.1 Pentagon Campus. All valves on the Pentagon Campus shall be labeled in accordance with the Pentagon Equipment Labeling Standard.

606.4.2 Mark Center - Reserved

229.5.10 Add IPC Section 606.7 as follows: Labeling of water distribution pipes in bundles. Labeling of water distribution pipe shall meet the requirements of Section 301.10

229.5.11 Add IPC Section 606.8 “System drain down.”:

606.8 System drain down. Piping systems shall be designed and installed to permit the system to be drained.

Exception: Section 606.8 shall not apply to buried portions systems embedded under floors or underground.”

229.5.12 Amend UFC 3-420-01, Section 4-7.5, IPC Section 607.1.3 *Legionella Pneumophila* (Legionnaire’s Disease) to include the following: The recommended practices described in ASHRAE 12 shall be considered and implemented wherever practical to minimize the risk of exposure to Legionella Pneumophila. The designer of record shall document the consideration decision process and submit their rational analysis as part of the Basis of Design

229.5.13 Add IPC Section 607.6 Mixing Devices: Check valves shall be installed on the hot and cold water lines feeding mixing devices.

229.6 Modify UFC 3-420-01, Section 4-8 - IPC Chapter 7 – Sanitary Drainage as follows:

229.6.1 Delete IPC Section 705.8 “Steel” in its entirety.

229.6.2 Delete IPC Section 705.9 “Lead” in its entirety.

229.6.3 Add IPC Section 708.1.13 Concealed piping:

"708.4 Concealed piping. Cleanouts on concealed piping or piping under a floor slab or in a crawl space of less than 24 in. in height or a plenum shall be extended through and terminate flush with the finished wall, floor or ground surface or shall be extended to the outside of the building. Cleanout plugs shall not be covered with cement, plaster or any other permanent finish material. Where it is necessary to conceal a cleanout or to terminate a cleanout in an area subject to vehicular traffic, the covering plate, access door or cleanout shall be of an approved type designed and installed for this purpose. Clean outs shall be elevated above the flood level rim of the highest fixture connected to the pipe served by the cleanout."

229.6.4 *Amend IPC Section 712.3.1 Sump pump to include the following: Sump pumps shall be installed in pits below the lowest floor. Sump pumps shall be duplex pump units. The capacity of each pump of the duplex pump unit shall be sufficient to meet the inflow requirements of the sump

229.6.5 Amend UFC 3-420-01 Section 4-8.2, IPC Section 712.3.4 Maximum effluent level to include the following: This alarm shall be sent to the facilities FRCS.

229.6.6 Add IPC Section 712.3.6 Controls: Each pump shall be fully controllable by the facilities FRCS. The integration of the pumps with the facility FRCS shall be done in accordance with Section 236.

229.7 Modify UFC 3-420-01, Section 4-9, Chapter 8 – Indirect/Special Waste as follows:

229.7.1 Replace IPC Section 802.1.3 Potable clear-water wasteas follows: Potable clear-water waste. Devices and equipment, such as sterilizers and relief valves that discharge potable water shall dispose of the potable water through an indirect waste pipe by means of a trap and air gap into the Storm System.

229.8 Modify UFC 3-420-01, Section 4-10, Chapter 9 – Vents as follows:

229.8.1 Replace IPC Section 901.6 Engineered systems as follows: Engineered venting systems are prohibited.

229.8.2 Replace IPC Section 904.3 Vent termination as follows: Vent stacks or stack vents shall terminate outdoors to the open air.

229.8.3 Replace IPC Section 905.1 Connection as follows: All individual branch and circuit vents shall connect to a vent stack, stack vent, or extend to the open air.

229.9 Modify UFC 3-420-01, Section 4-11, Chapter 10 – Traps, Interceptors, and Separators as follows:

229.9.1 Replace IPC Section 1002.4 Trap seals as follows: Each fixture trap shall have a liquid seal of not less than 2 in. and not more than 4 in., or deeper for special designs relating to accessible fixtures. Where a trap seal is subject to loss by evaporation, a deep-seal trap consisting of a 4-in. seal shall be installed.

230.0 CHAPTER 30 – ELEVATOR AND CONVEYING SYSTEMS

230.1 Use UFC 1-200-01, Section 2-30.

231.0 CHAPTER 31 – SPECIAL CONSTRUCTION

231.1 Use UFC 1-200-01, Section 2-31.

232.0 CHAPTER 32 – ENCROACHMENT INTO THE PUBLIC RIGHT-OF-WAY

232.1 Use UFC 1-200-01, Section 2-32.

233.0 CHAPTER 33 – SAFEGUARDS DURING CONSTRUCTION

233.1 Use UFC 1-200-01, Section 2-33 and modifications below.

233.2 Section 233.0 adopts by reference the latest edition of the SCD/OSHB Policy Chapters, as published on its website at https://www.whs.mil/Services/Safety, under the delegated authority of the Director, FSD.

233.3 Where a topic is not addressed in the aforementioned Policy Chapters, use IBC Chapter 33 and UFC 3-600-01. If any conflict occurs between IBC Chapter 33 and UFC 3-600-01, the requirements of UFC 3-600-01 take precedence.

233.4 For construction, renovations or alterations, when a required fire protection system is anticipated to be taken out of service or impaired for more than 4 hours, a fire watch or a 2-hour fire resistance rated barrier (or equivalent as approved by the PFM) shall be provided to separate the affected area prior to system impairment.

234.0 CHAPTER 34 – EXISTING STRUCTURES

234.1 Use IEBC per UFC 1-200-01, Chapter 3.

235.0 CHAPTER 35 – REFERENCED STANDARDS

235.1 Use UFC 1-200-01, Section 2-35 and Appendix D of this document.

236.0 CHAPTER 36 – FACILITY RELATED CONTROL SYSTEMS

236.1 Requirement to Connect

236.1.1 All devices, equipment, and control systems, with the capability of being remotely monitored or controlled shall be connected and integrated to the FRCS installed on the Pentagon Campus. Such integration shall allow for the full control and monitoring capabilities provided by the manufacturer. The integration strategy utilized shall make these control and monitoring capabilities available from any workstation connected to the FOG Virtual Routing and Forwarding (VRF) zone on Joint Service Provider's (JSP's) Coral Transport. Each system shall be integrated to any manufacturer's provided supervisory control and data acquisition (SCADA), as well as to the main reservation SCADA system.

236.1.2 *All components of the FRCS installed on the Pentagon Campus must be connected and able to communicate directly with the FOG Virtual Routing and Forwarding (VRF) zone on Joint Service Provider's (JSP's) Coral Transport.

236.1.3 Scenarios encountered based on current architecture of the Coral Network:

236.1.3.1 *New outside construction: Fiber media shall be encased in conduit to the nearest JSP Coral PoP as designated by JSP.

236.1.3.2 Existing external structure modification: Plenum rated CAT6E shall be installed in conduit where cable tray is not available, to the designated Telecommunications Closet (TC) with existing Coral presence. If this distance is outside of current distance rating for CAT6E, either Fiber and Media converters must be used or another TC designated to extend the availability of Coral to include procuring a new switch through JSP.

236.1.3.3 *Existing internal structure modification: Plenum rated CAT6E shall be installed in conduit where cable tray is not available, to the nearest TC within the same routing area.

236.1.4 No External FOG VRF Connectivity Allowed: Components of the FRCS installed on the Pentagon Campus shall be designed and configured to prevent external remote access, monitoring, and/or control from any devices, users, or sources outside of the FOG VRF, and/or directly connected Operational Technology (OT) infrastructure.

236.1.5 No Wireless Connectivity Allowed: All connections and data transmissions must be over a form of physical media. The presence of any wireless communication on FOG's VRF is prohibited.

236.2 Requirements For Modification To The FRCS Installed on the Pentagon Campus:

236.2.1 All modifications to the FRCS installed on the Pentagon Campus, shall be approved by the Pentagon FRCS Change Control Board prior to initiating construction. Approval for modifications to the FRCS installed on the Pentagon Campus shall be requested in accordance with the Change Control Request Process.

236.2.2 All systems installed on the Pentagon Campus shall be integrated to the FRCS, in compliance with the Pentagon FRCS Systems Integration Specification (SIS).

236.2.3 *All modifications to the FRCS installed on the Pentagon Campus shall comply with the Pentagon Master FRCS Cybersecurity Plan.

236.2.4 All modifications to the FRCS installed on the Pentagon Campus shall comply with UFC 4-010-06, Cybersecurity of Facility Related Control Systems.

236.2.5 All modifications to the FRCS installed on the Pentagon Campus shall comply with series 25 of the UFGS.

236.2.6 All work creating the risk for impact to the FRCS installed on the Pentagon Campus shall obtain an approval in accordance with the FOG Access and Outage SOP.

236.3 System Access Requirements:

236.3.1 Requirement to Obtain Access Approval: All individuals performing modifications to the FRCS installed on the Pentagon Campus shall obtain approval from FOG for the appropriate level of access required to perform said modifications.

236.3.2 Access Request Process: All access to the FRCS installed on the Pentagon Campus shall be requested in accordance with the Pentagon FRCS Access SOP.

300.0 OTHER CRITERIA

Note: Web links are provided in this document for the convenience of the user and are current at the time the primary revision is published. The WHSBC Technical Committee does not periodically confirm these links during the life-cycle of the code to include minor revisions, if any. The user is encouraged to verify all referenced documentation directly with the publishing agency or organization.

In addition to the International Building Code as modified in Chapter 2 of this WHSBC, comply with the following criteria:

301.0 HIGHER AUTHORITY MANDATES

All construction must be in accordance with all Public Laws (PS), Executive Orders (EO), Code of Federal Regulations (CFR), Department of Defense Instructions (DODI), Department of Defense Manuals (DoDM), and Department of Defense Directives (DODD) or other higher authority documents as applicable.

302.0 UNIFIED FACILITIES CRITERIA (UFC)

Comply with latest version of UFCs.

303.0 CORE UNIFIED FACILITIES CRITERIA

See UFC 1-200-01, Section 1-6.3.1.1

303.1 Antiterrorism.

Antiterrorism. For antiterrorism requirements, refer to UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings.

303.2 Sustainability.

All design and construction shall be in accordance with each section of UFC 1-200-02.

303.3 Architectural.

303.3.1 Use UFC 3-101-01 and Section 305.0 for architectural design criteria.

303.3.2 Use UFC 3-110-03 for roofing criteria.

303.3.3 Use UFC 3-120-10 and Section 305.0 for interior design criteria.

303.3.4 Additional Architectural Modifications.

303.3.4.1 Doors entering into stairs in public corridors must contain vision panels that comply with the size and location requirements for fire resistance rated doors as applicable.

303.3.4.2 Doors swinging outward into the A or E Rings in the Pentagon must be recessed such that at no point during the swing does the door impinge greater than 7 in. into the overall corridor width.

303.3.4.3 Doors swinging outward into the radial corridors from normally occupied spaces must be recessed such that at no point during the swing does the door impinge greater than 7 in. into the overall corridor width.

303.4 Civil Engineering.

303.4.1 Use UFC 3-210-10 for low-impact development criteria.

303.4.2 Use UFC 3-201-01 for general civil engineering, and site planning and design criteria.

303.4.3 Use UFC 3-230-01 for water supply.

303.4.4 Use UFC 3-240-01 for wastewater collection.

304.0 OTHER MILITARY CRITERIA

If directed by a DODI, military criteria other than those listed in this UFC may be applicable to specific types of structures, building systems, or building occupancies. Such structures, systems, or buildings must meet the additional requirements of the applicable military criteria.

304.1 Explosives Safety.

304.1.1 This document does not contain requirements for explosives safety. All facilities that involve DoD Ammunition and Explosives (AE) storage, handling, maintenance, manufacture or disposal, as well as any facilities within the explosives safety quantity distance (ESQD) arcs of AE facilities, must comply with the explosives safety requirements found in DoD Manual 6055.09-M.

304.1.2 It is essential that the planning and design of new facilities and occupation and renovation of existing AE-related facilities or any facilities within ESQD arcs be accomplished in close coordination with knowledgeable explosives safety professionals in theater or with the Services' explosives safety centers. This coordination should occur as early as possible in the planning/design process to avoid issues/problems and ensure compliance.

304.1.3 All facility construction or use within ESQD arcs requires review for compliance with explosives safety criteria and must have either an approved explosives safety site plan or an approved explosives safety deviation. Refer to the DoD documents mentioned above for further guidance in this area.

304.2 Physical Security.

304.2.1 Physical security is that part of security concerned with physical measures designed to safeguard personnel; to prevent unauthorized access to equipment, installations, material, and documents; and to safeguard them against espionage, sabotage, damage, and theft.

304.2.2 Many buildings require some level of physical security. When required, integrate physical measures into the site, building, room(s), or area(s) as applicable. The Intelligence Community (IC) and DoD document the requirements for physical security related to specific assets in IC and DoD publications, directives, and instructions. Services have related documents that implement the IC and DoD policy for the Services. Table 304.2.2, below, lists the main DoD and IC documents that contain the physical security requirements for the protection of specific DoD assets. This does not include the policy documents associated with the protection of nuclear and chemical assets.

Table 304.2.2: Policy Related to Physical Security

Asset	Policy
Classified Information	DoDM 5200.01, *DoD Information Security Program* http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/520001p.pdf
Sensitive Compartmented Information (SCI)	UFC 4-010-05, *Sensitive Compartmented Information Facilities Planning, Design, and Construction with Change 1*. https://www.wbdg.org/dod/ufc/ufc-4-010-05 Intelligence Community Directive (ICD) 705, *Sensitive Compartment Information Facilities*. Intelligence Community Standard Number 705-1 (ICS 705-1), *Physical and Technical Security Standards for Sensitive Compartmented Information Facilities* (Effective: 17 September 2010) https://www.dni.gov/files/NCSC/documents/Regulations/ICS-705-1.pdf Intelligence Community Standard Number 705-2 (ICS 705-2), *Standards for the Accreditation and Reciprocal Use of Sensitive Compartmented Information* (Effective: 22 December 2016) https://www.dni.gov/files/NCSC/documents/Regulations/ICS_705-2_Standards_for_Accreditation_Reciprocal_Use_of_SCIFs.pdf IC Tech Spec-for ICD/ICS 705, *Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities* (Effective: 5 May 2011)

Table 304.2.2: Policy Related to Physical Security

Asset	Policy
Special Access Program (SAP) Information	DoD Manual 5205.07, *Special Access Program Security Manual* https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodm/520507m1.PDF?ver=o_3_m4lDAtLKPOLQHatcYA%3d%3d
Arms, Ammunition and Explosives	DoD Manual 5100.76-M, *Physical Security of Sensitive Conventional Arms, Ammunition and Explosives* https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodm/510076m.PDF?ver=5yPY5AkBNcNSniaDh8hXgQ%3d%3d
Weapon Systems and Platforms	DoD 5200.08-R, *Physical Security Program* https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodm/520008rm.pdf
Bulk Petroleum Products	
Communications Systems	
Controlled Inventory Items	

305.0 UNIVERSAL SPACE PLAN

The Universal Space Plan Technical Workbook shall be used for the layout and design of interior office space to the greatest extent possible.

306.0 INTEGRATED SUSTAINABLE REQUIRE8MENTS

306.1 *It is a FSD requirement to use material, equipment, and parts common to the building's systems. Further information can be obtained from the Director, FOSD.

306.1.1 The comprehensive guide for applying sustainable design is the Whole Building Design Guide (WBDG). The guide provides government and industry practitioners with one-stop access to up-to-date information on a wide range of building-related guidance, criteria and technology from a 'whole buildings' perspective. The WBDG is located at https://www.wbdg.org/.

306.1.2 The Compliance Checklist for Implementing Sustainability Requirements at WHS Facilities shall be used. The most recent version of the Compliance Checklist for Implementing Sustainability Requirements at WHS Facilities, can be found on the Pentagon's Environmental Compliance and Resiliency Branch (ECRB) website at https://dod365.sharepoint-mil.us/sites/WHS-FSD/SitePages/Environmental.aspx.

306.1.3 The principles and practices of low impact development (LID) shall be implemented into all project sites so that the project reduces stormwater runoff pollution to the maximum extent feasible and complies with EISA 438 and Arlington County Stormwater requirements. Documentation supporting compliance shall be submitted to ECRB in accordance with the permit-required Total Daily Maximum Load Action Plan.

307.0 EXTERIOR STANDARDS

307.1 *Comply with the Exterior Standards Manual for all work affecting exterior portions of the Pentagon Reservation.

307.2 Contact FSD office of Engineering and Construction Division (ECD) at 703-693-8293 for a copy of the Exterior Standards Manual.

308.0 HAZARDOUS MATERIALS USED IN CONSTRUCTION

308.1 Radioactive materials or instruments capable of producing ionizing/non-ionizing radiation as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocynates are prohibited.

308.1.1 Radioactive material and devices used in accordance with USACE EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources are permitted.

308.2 Asbestos

308.2.1 *All items utilized, or work required, shall be free of asbestos in any form whatsoever.

308.2.2 The BCO shall be notified within five business days of identifying that Section 104.10 must be applied to meet the requirement of Section 308.2.1, above.

309.0 LABELING STANDARDS

309.1 Pentagon Equipment Labeling Standard (PELS) shall be followed for all work that affects Federally controlled utility systems to include but not limited to Mechanical, Domestic Water, Sanitary Sewer, Storm Sewer, Fire Protection and Electrical systems on the Pentagon Reservation. Copies of the PELS are available from the Standards and Compliance Division (SCD) at whs.planreview@mail.mil.

309.2 Mark Center Complex Equipment Labeling Standard - Reserved

310.0 PENTAGON FACILITY GUIDE SPECIFICATIONS

310.1 The Pentagon Facility Guide Specifications (PFGS) shall be applied to all planning, design, construction, sustainment, restoration, and modernization of the Pentagon Campus, regardless of funding source. It is a requirement of FSD to use material, equipment, and parts common to the Pentagon building's systems. Copies of the specifications are available at https://www.wbdg.org/whs/pentagon-guide-specifications or are available upon request from the Engineering and Construction Division.

310.2 The application of the PFGS to projects affecting Pentagon facilities shall fulfill the requirement found within Department of Defense Directive 4270.5 to use the UFGS.

310.3 The guidance found within the PFGS shall take precedence over any guidance found within the UFGS.

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ATTACHMENTS

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ATTACHMENT 1 Waiver Request Form

To Request A Waiver

1. Applicant transmits a preliminary waiver request form in electronic format to Document Control on the accepted waiver form with all requisite attachments with a meeting request date.

2. Document Control receives the preliminary waiver request, sends the request out electronically to reviewers (relevant contacts from FOSD, SCD and FSD), and request that they attend the scheduled review meeting.

3. A preliminary review meeting is held on a date mutually agreed by the applicant and interested parties.

4. Applicant is responsible for documenting all comments and makes any necessary changes from the meeting.

5. Applicant, as necessary, arranges a follow up meeting with interested parties to review any changes. Reviewers indicate that they have attended and have reviewed the waiver.

6. Applicant sends the modified preliminary waiver request electronically to Document Control.

7. Document Control electronically sends the preliminary waiver request to reviewers.

8. Reviewers provide final comments to Document Control. Document Control compiles all comments and sends to the BCO. The BCO receives and reviews the comments, attaches the Waiver Request Worksheet indicating level of risk, and signs the request recommending approval or disapproval. The BCO sends request to the AHJ as well as Document Control.

9. Document Control will inform applicant of waiver request status.

10. Document Control receives the BCO signed waiver request and provides a recommendation review letter along with the entire signed package to the AHJ. The AHJ signs as accepted or rejected and returns all documentation to Document Control.

11. Document Control receives the signed or rejected waiver request from the AHJ.

12. If the waiver is approved, Document Control will file the original signed waiver, enter the accepted waiver in the Project Data Base, copying the BCO and applicant.

13. If the waiver is rejected, Document Control will file the rejected original waiver, enter the rejected waiver in the Project Data Base, copying the BCO and applicant.

14. If a waiver is rejected, once all documents have been filed, a meeting is scheduled with management leaders for further discussion.

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Submit By Email

Waiver No.

FOR OFFICE USE ONLY

WAIVER REQUEST FORM

Department of Defense - Washington Headquarters Services
Facilities Services Directorate
Standards and Compliance Division, Construction Official
whs.planreview@mail.mil - Tel. (703) 695-8004

Date:	
Project:	
Code Issue:	
Code Reference:	
Point of Contact/Name/Title:	
Point of Contact Number:	

Code Issue Summary

Code Requirement

Background Information

Non-Code Compliance

Submit By Email

Waiver No.

FOR OFFICE USE ONLY

WAIVER REQUEST FORM

Department of Defense - Washington Headquarters Services
Facilities Services Directorate
Standards and Compliance Division, Construction Official
whs.planreview@mail.mil - Tel. (703) 695-8004

Risk

Compensatory Measures

Justification for Approval

Waiver Request Recommendation		AHJ Determination	
☐ Recommend Approval of Code Waiver		☐ Approve Code Waiver	
☐ Recommend Disapproval of Code Waiver		☐ Disapprove Code Waiver	
CONSTRUCTION OFFICIAL		AHJ	
Name:		Name:	
Date:		Date:	
Signature:		Signature:	

ATTACHMENT 2 Departure Request Form

To Request A Departure

1. Applicant transmits a preliminary departure request in electronic format to Document Control on the accepted departure form (Attachment 2) with all requisite attachments with a meeting request date.

2. Document Control receives the preliminary departure request, sends the request out electronically to reviewers (involved contacts from FOSD, SCD and FSD), and requests that they attend the scheduled review meeting.

3. A preliminary review meeting is held on a date mutually agreed by the applicant and interested parties.

4. Applicant is responsible for documenting all comments and makes any necessary changes from the meeting.

5. Applicant, as necessary, arranges a follow up meeting with interested parties to review any changes. Reviewers indicate that they have attended and have reviewed the departure.

6. Applicant sends the modified preliminary departure request electronically to Document Control.

7. Document Control electronically sends the preliminary departure request to reviewers.

8. Reviewers provide final comments to Document Control. Document Control compiles all comments and sends to the BCO or AHJ. The BCO/AHJ receives and reviews the comments, attaches the Departure Request Worksheet indicating level of risk, and signs the request indicating approval or disapproval. The BCO/AHJ then sends the request to Document Control.

9. Document Control will inform applicant of departure request status and return all applicable materials.

10. If the departure is approved, Document Control files the original signed departure, enters the accepted departure in the Project Data Base and copies BCO and applicant.

11. If the departure is rejected, Document Control files the rejected original departure, enters the rejected departure in the Project Data Base and copies the BCO and applicant.

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Submit By Email

Departure No.

FOR OFFICE USE ONLY

DEPARTURE REQUEST FORM

Department of Defense - Washington Headquarters Services
Facilities Services Directorate
Standards and Compliance Division, Construction Official
whs.planreview@mail.mil - Tel. (703) 695-8004

Date:	
Project:	
Code Issue:	
Code Reference:	
Point of Contact/Name/Title:	
Point of Contact Number:	

Code Issue Summary

Code Requirement

Background Information

Non-Code Compliance

Submit By Email

Departure No.

FOR OFFICE USE ONLY

DEPARTURE REQUEST FORM

Department of Defense - Washington Headquarters Services
Facilities Services Directorate
Standards and Compliance Division, Construction Official
whs.planreview@mail.mil - Tel. (703) 695-8004

Risk

Compensatory Measures

Justification for Approval

Construction Official/AHJ Determination	
☐ Approve Code Departure	
☐ Disapprove Code Depature	
Approving Authority (Circle One): CONSTRUCTION OFFICIAL AUTHORITY HAVING JURSIDICTION	
Name:	
Date:	
Signature:	

APPENDICES

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APPENDIX A Explanatory Material

Note: Web links are provided in this document for the convenience of the user and are current at the time the primary revision is published. The WHSBC Technical Committee does not periodically confirm these links during the life-cycle of the code to include minor revisions, if any. The user is encouraged to verify all referenced documentation directly with the publishing agency or organization.

A101.2.1.3 The reviewing authority for COLPRO/CBRNE systems includes PFPA/CBRNE Branch with the coordination of REO.

A101.5.6 The executive official in charge of the building department is named the "building code official" by this section. In actuality, the person who is in charge of the department may hold a different title, such as building commissioner, building inspector or building official. For the purpose of the code, that person is referred to as the "building code official."

A101.5.9 An example of a Change of Use - The Child Development Center (CDC) is changed from a day-care occupancy to a business occupancy.

A101.5.48 An example of a Modification - Adding a third fan to an Air Handler, adding a condensate drain to a Blended Chilled Water FPIU, adding a heating coil to a terminal unit without one.

A101.5.55 The Pentagon Campus includes the Pentagon, MEF, RDF, PLCC, North Village (MOC, SMOC, PSOC), HRP, and any other buildings within the Pentagon property line.

A101.5.65 The project manager (PM) is responsible for ensuring all activities related to projects are executed according to WHS, customer, DoD, and related outside agency requirements and regulations. The PM has the following additional responsibilities:

1. Establishes an Integrated Project Team (IPT) to plan and oversee project.
2. Coordinates the development of the Project Management Plan (PMP).
3. Follows procedures in the WHS Acquisitions Directorate (AD) Acquisition Handbook.
4. Chairs Project IPT.
5. Makes milestone presentations to the FSD Director, as requested.
6. Provides status information in appropriate format to PMO.
7. Ensures customers and stakeholders are informed of the status, budget and any issues or concerns, along with remedial or mitigating actions, relating to the project.
8. Ensures project closeout and transition requirements are met.

A101.5.68 DoD real property is accounted both physically and fiscally.

A101.5.70 Rebuilding a pump with parts of the same part numbers that came out of the pump, fixing a hole in the wall with the exact same material that was originally installed.

A101.5.71 Replacing one manufacturer's air handler with another manufacturer's air handler built with the same purpose; changing a Schedule 10 sprinkler pipe with Schedule 40.

A103.2 This section establishes the Building Code Official as an appointed position by the Authority Having Jurisdiction.

A104.6 For many construction projects, the Project Manager is the COR.

A104.10.2.1 The BCO does not have the authority to grant code waivers.

A105.1.9.2 See WHSFR for additional information.

A107.4.1 A minor change is defined as a deficiency identified during a field walk that can be resolved with no additional design (for example a missing or blocked exit sign).

A107.6.3.2.1 The DD Form 1354 is the official acceptance of real property for beneficial occupancy.

A110.3.21 A Preparation Checklist for Final Code Compliance Inspection and Punch List should be developed by the contractor/builder as tools to complete this verification. All punch list items that are noted during the contractor/builder verification should be closed out before calling for the Final Code Compliance Inspection.

A117.1 Commissioning is a proactive, systematic, and rigorous process of assuring by documentation, functional testing, and training, from the design phase to a minimum of one year after construction, that all building facility systems perform interactively in accordance with the design documentation and intent, and in accordance with the Government's operational needs. This process judges correct performance of both individual systems and systems operating interactively according to the project design intent. A guide for commissioning processes is available at https://www.wbdg.org/va/commissioning.

A204.19.2 If an existing system can provide adequate listed coverage of additional equipment or changing of equipment, the requirement for water-assisted systems need not apply.

A204.19.8.2 This judgment should take into account the type of cooking being performed, items being cooked, and the frequency of cooking operations. Examples of operations that might not require commercial cooking equipment and related levels of protection include the following: (1) Operations that are not cooking meals that produce grease-laden vapors, (2) Employee break rooms where food is warmed.

A209.11.2 Water supply data at the C-CUT is available by a Request for Information to the government.

A209.18 Revising existing Light Hazard sprinkler coverage to Ordinary Hazard sprinkler coverage may require modifying existing sprinklers as well as branchline, cross main, and/or feed main piping over areas outside the scope of work of the renovation responsible for completing the revision.

A209.28(b) To the greatest extent possible, sprinkler air vents should be located on the sprinkler system where the greatest volume of trapped air can be vented during each fill.

A209.31 Rooms designated for mercantile and food services undergo relatively frequent renovations as the tenants change. A separate sprinkler control valve is intended to help logistics during these renovations. In addition, it is consistent with design of mercantile and food service areas during the Pentagon Wedge 2-5 Renovation. Examples of small convenience stores and snack shops that are exempted are the Business Opportunity for the Blind (BOB) Stands.

A210.4 Access panels must be located on the non-exit passageway side. Mechanical, electrical, information technology and other utility design teams should coordinate location of their equipment and materials so that access to serviceable components can be reached by means other than through the exit passageway envelope.

A210.5 The "EMERGENCY EXIT DOOR - DO NOT BLOCK" signage is intended to prevent the door connecting two suites/rooms from being blocked. In many cases the door on the "egress thru" side is not identified as an egress to tenants in that space.

A210.9 The Life Safety Code (NFPA 101) does not permit egress to pass through an adjacent tenant space. For example, Tenant A shouldn't have to pass through Tenant B as part of their required egress, as Tenant A does not have control over Tenant B. However, due to the unique configuration of the Pentagon, a compromise was made during the PenRen Wedge Renovations to allow egress through adjacent tenant spaces with some stipulations. The route through the adjacent tenant space shall be clearly marked with exit signage, shall be simple / straightforward, and shall be limited to a single adjacent tenant. It has historically been a common finding by our fire inspection team to find egress-only doors or routes to be blocked by storage, coat racks, carts, etc. Therefore, these are required to be documented with a Fire Prevention Permit in order to ensure additional inspection and oversight.

A210.9.5 Signage is available from OPFM; however, signage shall be installed by the Contractor performing the work.

A210.11 Contact OPFM at whs.fireinfo@mail.mil or 703-695-3300 for additional descriptions and photographs of the signage discussed herein.

A210.11.2.1 Examples include mechanical rooms, electrical rooms, and storage rooms, which may have lights that are normally kept off via a light switch. It is expected that lights will be turned on when the room is occupied, which will then begin to charge the photoluminescent material.

A210.11.4.4 Most office suites are typically a combination of individual offices, small conference rooms and multiple work stations as well as equipment and furniture (copy machines, file cabinets, bookcases, etc.).

A227.5.1.1 After the Pentagon Renovation, a myriad of lighting standards existed for a variety of space types. In the development of the Pentagon Lighting Master Plan, government responses to contract deliverables have asked for compliance with certain codes and guidelines not mentioned explicitly in the Performance Work Statement (PWS). Among other design considerations, one component of the referenced codes and guidelines is target light level requirements. In some cases, the referenced code and guidelines have conflicting target light level requirements. The following codes and guidelines were considered:

- Unified Facilities Criteria (UFC) 3-530-01: Design: Interior, Exterior Lighting and Controls
- USP Utilities Design Criteria: Universal Space Plan (USP) Technical Workbook, Chapter 4
- TIA
- IES

Table A227.5.1.1 – Abbreviated Comparison and Government Direction of Light Level Requirements

	DESIGN REFERENCE			
	UFC 3-530-01	USP Utilities Design Criteria	TIA	IES
Space type	Target (fc)	Target (fc)	Target (fc)	Target (fc)
Large lobby	10fc			10fc
Corridors	5fc	15fc		0.30 * average (fc) in adjoining space (in this case, office space) ~ 10fc
Private office	30fc ambient	14fc ambient		30fc
	50fc task	42fc task		30fc
Open office	30fc ambient	14fc ambient		30fc
	50fc task	42fc task		30fc
Waiting areas	10fc ambient			10fc
	50fc task			
Conference rooms	30-50fc	28fc		30fc
Lounges	10fc			10fc
Office support	30fc ambient			15fc
	50fc task			30fc
Storage rooms	10fc			10fc
Mechanical/Electrical	30fc	27fc		20fc
Electrical closets				10fc
Restrooms	5fc ambient	18fc		15fc
Kitchens	50fc	75fc		50fc
Cafeteria	10fc			15fc
	50fc			
Enlisted dining rooms	10fc	30fc		15fc
	50fc			
Officer dining rooms	10fc	30fc		15fc
	50fc			
Indoor pool				
	Per IES RP-6			10fc
Indoor basketball	30fc			30fc

	DESIGN REFERENCE			
	UFC 3-530-01	USP Utilities Design Criteria	TIA	IES
Space type	Target (fc)	Target (fc)	Target (fc)	Target (fc)
	Per IES RP-6			
Locker Rooms	10fc			5fc
Retail		37fc		40fc
Command and Operation Center		46fc		
TC closets		46fc		15fc
Communications Equipment Closets		51fc	50fc horizontal 20fc vertical	50fc
TC - Wedge rooms (data center)		51fc	50fc horizontal 20fc vertical	10fc
Consolidated Radio Rooms (CRR)		50fc		

A227.7.1 Typical types of equipment include pad-mounted transformers, switchgear, switchboards, panelboards, disconnect switches, industrial control panels, meter socket enclosures, and motor control centers that are in other than dwelling occupancies.

A228.2.3.1.2 For example, envelope loads, equipment loads, occupant loads

A228.2.3.3.1 For example, conference room to office space, storage closet to copy machine room.

A228.4.1 Plastic fire sprinkler piping is not permitted, only Schedule 40 steel pipe is allowed. See Section 209.19

A228.4.2 Examples of noise sensitive areas are dining rooms next to kitchens, SCIFs, and conference rooms.

A228.5.1 These systems include but are not limited to Heating Hot Water, and Chilled Water systems.

A228.6.1.2 These requirements are in addition to the requirements found within the IBC. An example of an area that would require CO detection is the C-CUT as there is inadequate ventilation and welding is frequently conducted in this area.

A228.6.3 This section modifies IFGC, Section 406.4.1 and NFPA 54, Section 8.1.4.2.

A228.6.4 This section modifies IFGC, Section 406.4.2 and NFPA 54, Section 8.1.4.3.

A229.2.2.1 Design plumbing systems to provide economy and reliability. Provide simple, functional designs.

A229.2.2.3 Critical piping services such as medical gas systems piping should be routed so that it is not on exterior walls or walls shared with mailrooms.

A229.2.3.1.2 Show calculations clearly so that any changes that become necessary during construction or re-siting are made efficiently.

A229.2.4.1.2.1 Equipment room plans should be supplemented by at least one section; at least two sections for more complex, congested applications.

A229.2.4.1.5 The metric version of the valve coefficient, Kv, is calculated in cubic meters per second at 1 kPa pressure drop

A229.2.9 Water is the preferred test medium.

A229.2.13 Water is the preferred test medium.

A229.6.4 Subsoil drains may discharge into this pit.

A236.1.2 This process begins with Facilities Services Directorate's (FSD's) DISA Customer Relations Manager (CRM) submitting a request for “New Network Connectivity” through DISA’s Service Request Module (SRM). Depending on the level of complexity, this could take up to 2 years before fully executed.

A236.1.3.1 DISA will determine whether a local media converter or a switch is required to allow multiple devices to connect back over the fiber.

A236.1.3.3 DISA will then patch to the appropriate access switch.

A236.2.3 Copies of the Pentagon Master FRCS Cybersecurity Plan are available from the Standards and Compliance Division (SCD) at whs.planreview@mail.mil.

A306.1 The intent of this is to reduce repair parts inventories as well as to maintain standardization of systems.

A307.1 The Pentagon Reservation Exterior Standards Manual has been developed for the Washington Headquarters Services (WHS) for the purpose of defining future standards for the design of exterior building and site elements on the Pentagon Reservation in Arlington, Virginia. The Pentagon is a designated National Historic Landmark originally constructed in 1943. A set of reference guidelines is required for future exterior repairs, design, and construction activities, to provide clarity as to how to preserve the historic elements protected by the National Historic Preservation Act and its implementing regulations.

A308.2.1 A waiver to this prohibition may be requested per Section 104.10 when an asbestos-free product is not available. Such requests shall be fully documented and submitted as soon as possible after the contractor determines that an asbestos-free product is not available.

APPENDIX B Adopted Procedures

Note: Web links are provided in this document for the convenience of the user and are current at the time the primary revision is published. The WHSBC Technical Committee does not periodically confirm these links during the life-cycle of the code to include minor revisions, if any. The user is encouraged to verify all referenced documentation directly with the publishing agency or organization.

PROCEDURE	AUTHORITY	AVAILABLE THROUGH	APPLICABLE FOR
Air Quality Permit Review	SCD/ECRB	SCD/ECRB 703-693-3683	Use of temporary generators and/or boilers for any activity, ceremony, special event or display.
Antennas and Similar Devices Installation Application	FOG	whs.specialevents@mail.mil. DD1494 – Application for Equipment Frequency Allocation as published by FOG.	Installation of temporary or permanent roof penetrating equipment or radio frequency generating device.
Asbestos Control Permit	SCD/OSHB	https://www.whs.mil/services/safety under "OSHB Forms"	Any work requiring access to and/or disturbance of existing asbestos materials.
Building Code Permit	SCD/BCO	Permit is issued at the IFC phase once all comments are closed.	Any construction, alteration, modification, or change in occupancy being completed.
Cable Pulling Permit	FOG	whs.permitreview@mail.mil	Cable pulling installations in above-ceiling, FOG or publicly held spaces.
Confined Space Permit	SCD/OSHB	https://www.whs.mil/services/safety under "Confined Space Program"	Any work that requires an individual to enter a confined space, supervise an entry, or approve an entry.
Excavation Permit	ITD	whs.pentagon.fsd.mbx.ecd-cmd-excavation-permit@mail.mil	For any work that may disrupt underground communication or utility lines, or above ground rights of ways.
Exhibits, Artwork, and Signs on the Pentagon Reservation	FOG	http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/ai/a103p.pdf?ver=2017-07-17-143957-463 (See also Space Use Permit)	Whenever exhibits, artwork, or signs are to be installed or modified
Exterior Standards Manual	ECD	ECD at 703-693-8293	Any work affecting exterior portions of the Pentagon Reservation.
Flammable, Combustible, and Hazardous Materials Permit	SCD/OPFM	https://www.whs.mil/Services/Fire under "Fire Prevention Permit Application"	Any work requiring the use, storage, or manipulation of flammable, combustible, or hazardous materials.
Hot Work Permit (Welding, Cutting, or Brazing)	SCD/OPFM	https://www.whs.mil/Services/Fire under "Fire Prevention Permit Application"	Any operation involving open flames or producing heat and/or sparks, hot slag, or dross. Hot work includes, but is not limited to, brazing, cutting, grinding, soldering, arc welding, work on a pipe that would conduct heat through a wall or in contact with a wall, or torch-applied roofing.
Lead Work	SCD/OSHB	https://www.whs.mil/services/safety under "Policy Chapters"	During the use, handling, and removal of materials containing lead.
LPG Permit (See also Air Quality Permit)	SCD/OPFM	https://www.whs.mil/Services/Fireunder "Fire Prevention Permit Application"	As required by NFPA 1, the Fire Prevention Code, and NFPA 58, and/or the Liquefied Petroleum Gas Code.
Open Flame Permit	SCD/OPFM	https://www.whs.mil/Services/Fire under "Fire Prevention Permit Application"	Whenever an open flame will be used or displayed other than during hot work.
Roof Access Permit	FOG	whs.specialevents@mail.mil.	All work requiring access to the roof.

PROCEDURE	AUTHORITY	AVAILABLE THROUGH	APPLICABLE FOR
Roof Hot Work Permit	FOG	whs.specialevents@mail.mil.	Any roof operation involving open flames or producing heat and/or sparks, hot slag or dross. Hot Work includes, but is not limited to, brazing, cutting, grinding, soldering, arc welding, work on a pipe that would conduct heat through a wall or in contact with a wall, or torch-applied roofing.
Stationary Lead-Acid Battery Systems Permit	(Reserved)	(Reserved)	(Reserved)
Universal Space Plan	SCD	SCD at 703-695-8004	Whenever space modifications are planned for spaces within the Pentagon.
Use of Explosives Permit	FOG	whs.specialevents@mail.mil.	All work requiring use or storage of explosives.
Use of Space on the Pentagon Reservation Permit (to include land)	FOG Special Events Office	DD2798, http://www.esd.whs.mil/Portals/54/Documents/DD/forms/dd/dd2798.pdf, authority for which is granted by Title 32 of the Code of Federal Registrar (CFR) Part 234.3D.	Whenever events, installations, projects, etc. require use of FOG controlled or public spaces on WHS property. Use of equipment such as barbeque grills and open flames must be included in the Space Use Permit. Use of space permits are required for the following: Cable pulling (See also Cable Pulling Permit), Construction Demolition of structures Excavation (See also Excavation Permit), Flammable/combustible liquids storage (See Fire Prevention Permit), Gatherings such as meetings or parties in public areas Moved structures, Open flames (See also Fire Prevention Permit), Project laydown and storage areas (See also Public Space Policy), Roof Work (See also Roof Work Access Permit and Roof Hot Work Permit), Temporary Structures, Temporary Use of Equipment, Use of Explosives (See also Use of Explosives Permit)
Utility Outage Permit	REO	REO at 703-693-8084	Whenever a utility outage (electrical, mechanical, plumbing, telecommunication, fire protection, etc.) is required to complete work on WHS property.
Utility Space Access Permit	REO	REO at 703-693-8084	Reserved

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APPENDIX C Procedure for Changing the WHSBC

Note: Web links are provided in this document for the convenience of the user and are current at the time the primary revision is published. The WHSBC Technical Committee does not periodically confirm these links during the life-cycle of the code to include minor revisions, if any. The user is encouraged to verify all referenced documentation directly with the publishing agency or organization.

The following outlines the procedures and key timelines for requesting changes to the WHSBC:

A. Per Department of Defense Directive 4270.5, buildings, structures, etc. that fall under the jurisdiction of this Code are required to comply with the UFC to the greatest extent practicable. As such, this Code will be revised to reflect UFC revisions within 60 days of all UFC change releases directly affecting the WHSBC. Such interim revisions will include only those changes necessary to reflect new/modified UFC requirements. Until WHSBC revisions are completed, compliance with any new/modified requirements within the UFC is required in addition to compliance with the WHSBC.

B. Any individual or DoD Component subject to the code wishing to propose a change to the WHSBC shall submit a WHSBC Proposal Form to the SCD. The form can be found on the WHS Building Code Website at https://www.whs.mil/services/buildingcode

1. The WHSBC shall be revised on a biennial basis.
2. After July 1 of the applicable year, the code panel(s) will review all proposals submitted during the previous year and make recommendations to accept, accept in part, accept in principle, hold for additional information, or reject any proposal.
3. Proposed changes to the WHSBC and code panel recommended actions (Report on Proposals) will be posted to the WHS Building Code Website at https://www.whs.mil/services/buildingcode for public comment by September 1 of each year for 30 days. Comments are to be made using the Public Comment Form located on the WHS Building Code website.
4. Public comments must be submitted by October 1.
5. Upon review of comments, the code panel(s) will make final recommendations for proposed changes to the Director, FSD, by November 1 of each year.
6. The Director, FSD, will approve any changes and updates to the WHSBC by December 1 of each year.
7. Changes acted upon by Director, FSD, will be effective Jan 1 of each year.
8. The Director, FSD, at his or her sole discretion, may institute a tentative interim amendment (TIA) to the WHSBC if an emergency nature requiring prompt action. Determination of an emergency nature to life or property shall include, but not be limited to, one or more of the following:
    a. The WHSBC document contains an error or an omission.
    b. The WHSBC document contains a conflict within the document.
    c. The proposed TIA intends to correct a previously unknown existing hazard.
    d. The proposed TIA intends to offer individuals or DoD Components subject to the code a benefit that would lessen a recognized (known) hazard or ameliorate a continuing dangerous condition or situation.
    e. When a change in the UFC and/or ICC/NFPA standards creates a new conflict with the WHSBC.

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APPENDIX D References

Note: Web links are provided in this document for the convenience of the user and are current at the time the primary revision is published. The user is encouraged to verify all referenced documentation directly with the publishing agency or organization.

GOVERNMENT PUBLICATIONS

ARCHITECTURAL BARRIERS ACT (ABA)

Architectural Barriers Act (ABA) Accessibility Standards,
https://www.access-board.gov/files/aba/ABAstandards.pdf

"Access for People with Disabilities", DoD Memorandum, October 31, 2008, Deputy Secretary of Defense, 1010 Defense Pentagon, Washington, DC 20301-1010.
https://www.wbdg.org/FFC/DOD/dod_memo_aba.pdf

Architectural Barriers Act of 1968 (ABA), as amended, 42 U.S.C. § 4151, et seq., and Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794.
http://www.gpo.gov/fdsys/pkg/FR-2007-06-20/pdf/07-2979.pdf

DEPARTMENT OF ENERGY - 1000 Independence Ave SW, Washington, DC 20585
www.energy.gov

Federal Energy Management Program https://energy.gov/eere/femp/federal-energy-management-program

Federal Metering Guidance https://www.energy.gov/femp/articles/federal-metering-guidance-energy-act-2020-sec-1002g

DEPARTMENT OF THE ARMY PUBLICATIONS AND MANUALS (DA PAM)

DA PAM 385-64 *Ammunition and Explosives Safety Standards*
https://home.army.mil/stewart/5217/1163/6688/DA_PAM_385-64_Ammo_and_Expl_Stand_-_JUL_23.pdf

DOD ADMINISTRATIVE INSTRUCTION (AI)

AI-103 *Exhibits, Artwork, and Signs on the Pentagon Reservation*
http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/ai/a103p.pdf?ver=2017-07-17-143957-463

DOD DIRECTIVE (DODD)

DoDD 4270.5 Military Construction
https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/427005p.pdf

DOD MANUAL

DOD MANUAL 5100.76-M *Physical Security of Sensitive Conventional Arms, Ammunition and Explosives*
http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodm/510076m.pdf

DOD MANUAL 5200.1 *DoD Information Security Program*
https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodm/520001m_vol1.pdf
https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodm/520001m_vol2.pdf

DOD MANUAL 5200.08R *Physical Security Program*
https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodm/520008rm.pdf

Defense Explosives Safety Regulation 6055.09, Edition 1
https://www.denix.osd.mil/ddes/denix-files/sites/32/2021/08/DESR-6055.09-Edition1.pdf

DOD SUPPLEMENTS

DOD Supplement to the National Manual on Uniform Traffic Control Devices (MUTCD)

https://api.army.mil/e2/c/downloads/2025/09/24/af1fb994/mutcd-dod-supplement-revision-20150601.pdf#:~:text=o.%20The%20MUTCD%20is%20available%20on-line%20at%20http%3A%2F%2Fmutcd.fhwa.dot.gov%2F.,examples%20o%20signing%20and%20striping%20schemes%2C%20diagrams%20

INTELLIGENCE COMMUNITY

INTELLIGENCE COMMUNITY DIRECTIVE (ICD) 705,
Sensitive Compartment Information Facilities

INTELLIGENCE COMMUNITY STANDARD NUMBER 705-1 (ICS 705-1)
Physical and Technical Security Standards for Sensitive Compartmented Information Facilities (Effective:17 September 2010)
https://www.dni.gov/files/NCSC/documents/Regulations/ICS-705-1.pdf

INTELLIGENCE COMMUNITY STANDARD NUMBER 705-2 (ICS 705-2)
Standards for the Accreditation and Reciprocal Use of Sensitive Compartmented Information (Effective: 22 December 2016)
https://www.dni.gov/files/NCSC/documents/Regulations/ICS_705-2_Standards_for_Accreditation_Reciprocal_Use_of_SCIFs.pdf

INTERAGENCY COMMITTEE ON SEISMIC SAFETY IN CONSTRUCTION

Standards of Seismic Safety for Existing Federally Owned and Leased Buildings, U.S. Department of Commerce, Technology Administration, Structures Division, Building & Fire Research Laboratory, National Institute of Standards and Technology, Gaithersburg, MD, https://tsapps.nist.gov/publication/get_pdf.cfm?pub_id=935890

MILITARY STANDARD (MIL-STD)

MIL-STD-101C *Standard Practice Color Code for Pipelines and for Compressed Gas Cylinders.*
https://www.wbdg.org/FFC/FEDMIL/milstd101.pdf

MIL-STD-3007G *Standard Practice Unified Facilities Criteria, Facilities Criteria and Unified Facilities Guide Specifications.*
https://www.wbdg.org/dod/fedmil/mil-std-3007

UNIFIED FACILITIES CRITERIA (UFC)

https://www.wbdg.org/dod/ufc

UNIFIED FACILITIES GUIDE SPECIFICATIONS

https://www.wbdg.org/dod/ufgs

UNITED STATES ARMY CORPS OF ENGINEERS Engineering Manuals

USACE EM 385-1-1 *Safety – Safety and Health Requirements*
http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_385-1-1.pdf

NON-GOVERNMENT PUBLICATIONS

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) - 1801 Bell Drive, Reston, VA 20191-4400
https://www.asce.org

ASCE/SEI 31-03	*Seismic Evaluation of Existing Buildings*
ASCE/ SEI 41-06	*Seismic Rehabilitation of Existing Buildings*

AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR-CONDITIONING ENGINEERS (ASHRAE) - 180 Technology Parkway NW, Peachtree Corners, GA 30092
www.ashrae.org

ASHRAE 55	*Thermal Environmental Conditions for Human Occupancy*
ASHRAE 62.1	*Ventilation and Acceptable Indoor Air Quality*
ASHRAE 90.1	*Energy Standard for Sites and Buildings Except Low-Rise Residential Buildings*
ASHRAE 154	*Ventilation for Commercial Cooking Operations*

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) - 3 Park Avenue. New York, NY 10016-5990

ASME 17.1	*Safety Code for Elevators and Escalators*

https://www.asme.org

INTERNATIONAL CODE COUNCIL (ICC) – 500 New Jersey Avenue, NW, 6th Floor, Washington, DC 20001

https://shop.iccsafe.org

International Building Code (IBC)
International Energy Conservation Code (IECC)
International Existing Building Code (IEBC)
International Fire Code (IFC)
International Fuel Gas Code (IFGC)
International Green Construction Code
International Mechanical Code
International Plumbing Code

NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (NECA)

https://nietc.org/

NECA 1	Standard for Good Workmanship in Electrical Construction

NATIONAL FIRE PREVENTION ASSOCIATION (NFPA) – 1 Batterymarch Park Quincy, Massachusetts, 02169

http://www.nfpa.org/Codes-and-Standards/All-Codes-and-Standards/List-of-Codes-and-Standards

NFPA 1	*Fire Code*
NFPA 13	*Standard for the Installation of Sprinkler Systems*
NFPA 14	*Standard for the Installation of Standpipe and Hose Systems*
NFPA 17A	*Standard for Wet Chemical Extinguishing Systems*
NFPA 54	*National Fuel Gas Code*
NFPA 58	*Liquefied Petroleum Gas Code*
NFPA 70	*National Electrical Code®*
NFPA 72	*National Fire Alarm and Signaling Code*
NFPA 75	*Standard for the Fire Protection of Information Technology Equipment*
NFPA 96	*Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*
NFPA 101	*Life Safety Code®*

UNDERWRITERS LABORATORIES (UL) – 333 Pfingsten Road Northbrook, IL 60062-2096

https://www.ulstandards.com

UL 300	Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking Areas
UL 924	Emergency Lighting and Power Equipment
UL 1994	Luminous Egress Path Marking Systems