

01000 - GENERAL DESIGN REQUIREMENTS

I. DESIGN

- A. Materials contained in the Fairfax County Guidelines for Architect and Engineers (Guidelines) are provided for information and guidance to preferred practices, and shall not to be construed as waiving or granting exceptions to any element of federal, state or local building codes, ordinances, and regulatory requirements as applicable to the specific project. Any conflict between these Guidelines and the governing local, state, or federal codes should be brought to the immediate attention of the Building Design & Construction Division (BDCD), Fairfax County Department of Public Works and Environmental Services (DPWES).
- B. The Architect/Engineer (A/E) is responsible to assure that the most current version of referenced design standards in the Guidelines is used for the project. The Owner does not guarantee that Exhibits and Appendices are the most current versions.
- C. The project plans and specifications shall reflect the information and requirements of these Guidelines as applicable to each project.
- D. All design and construction shall comply with the most current Americans with Disabilities Act Accessibility Guidelines (ADAAG) scoping and technical requirements, and Fairfax County accessible design concepts referenced within this document.
- E. The project plans and specifications shall reflect the information and requirements of these Guidelines as applicable to each project and shall provide the following information:
 - 1. Fairfax County project number, contract number, quality control signoff block, and bid authorization signature block on the cover sheet for all plan review submittal phases (see Exhibit 01000-A).
 - 2. Building address and key map.
 - 3. Site area (acres) and building square footage.
 - 4. Soil boring logs and locations.
 - 5. U-values for walls, roof/ceiling, door and window.
 - 6. Design roof and floor loads, soil bearing value and structural material strengths.
 - 7. Doors, windows, finish schedules; lighting fixture, equipment and signage schedules.
 - 8. Site plan drawings shall be at a common scale and be oriented the same direction on all sheets.
 - 9. Building Plans for all disciplines shall be at a common scale, and oriented the same direction on all sheets.
 - 10. The standard industry convention for referencing note and details shall be used on the construction documents.
- F. The A/E shall complete a Quality Control (QC) sign-off block on the cover sheet for plan

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submittals. The QC block shall include the number of QC hours spent by each discipline and be signed off by the responsible person reviewing each discipline. The QC block is to be included on the cover sheet for all submittals with the exception of the bid set and the permit set.

G. The bid set documents shall be sealed, signed and dated (all plan sheets and the cover sheet of specifications) by an Architect or Engineer registered in the State of Virginia.

H. Drawing Standards

1. All civil, architectural, structural, electrical, mechanical, and plumbing floor plans (including reflected ceiling plans), as a minimum, shall be prepared using the most current version of AutoCAD to assure improved functionality when using a Building Information Modeling (BIM) program.

2. Use of BIM and Revit program is acceptable but not required at this time. When using BIM, the A/E shall coordinate with the County Project Manager for advance approval if a program other than Revit will be used.

3. Quality Control of plans shall include overlaying CAD floor plans to check for conflicts. AutoCAD layering convention shall conform to AIA and AutoDesk standards.

4. AutoCAD drawings shall be formatted as follows:

a. Zoomed to Extents

b. UCS set to World

c. Free of all extraneous lines or entities

d. Purged of all unused layers and blocks

e. Lines and polylines shall not be duplicated or contain unnecessary verticals

f. X-refs attached at 0,0,0

g. All entities placed on their correct/standard layer, with no entities on layer 0.

h. Units set to Architectural feet and inches.

i. All entities drawn with color and line type by layer

I. Specifications shall follow CSI, 16-division format; and be specific regarding the codes to be met. Sections of specifications that are performance based must be clearly identified as such. Owner must approve use of performance specifications.

J. Project specifications shall require that operations and maintenance (O+M) manuals include a complete paint schedule for the entire building; manufacturer and color information for plastic laminates, floor tiles, stains and varnishes, ceiling tiles, ceramic tiles; and all hardware model numbers. Brand names and specific information required for future ordering from manufacturer must be provided. These requirements are to be coordinated with County General Conditions and Division 01000 Specifications for O+M

manuals and as-built documents. The Contractor must be required to provide as-built information to meet these requirements.

- K. The A/E shall coordinate for allowances to be included in the specifications General Conditions, to include items and work scope required for unforeseen conditions. The allowance items, quantities and the associated costs are subject to Owner's verification and approval. The common allowances may include the following:
- Unsuitable soil undercut
 - Rock excavation
 - Additional signage
 - Contaminated soil removal
 - Partnering
 - Aggregate material (VDOT 21A or 21B)
 - Utilities
 - Geotextile fabric
 - Additional fire marshal requirements

The A/E shall coordinate with the County Project Manager for allowances required for each project.

- L. Requirements of these Guidelines must be coordinated with the County's Fire Station Design Manual, Police Station Design Manual and the Library Design Manual for applicable projects; and any conflicts brought to the attention of the County Project Manager for resolution.
- M. The A/E is responsible for submitting and tracking project plans through the County building and site plan review process (Department of Public Works and Environmental Services (DPWES) Land Development Services (LDS), in a timely and diligent manner, and for making all required corrections, inserts, re-submissions, etc. Designers shall follow the latest edition of the Engineers & Surveyors Institute (ESI) Site Plan Peer Review checklist in the preparation of site plans.
- N. The A/E must carefully review the County's Special Conditions Sections A thru E and Division 1- General Requirements Sections 01000-01700; and coordinate all design specifications with these County requirements. Any conflicts or proposed modifications impacting standard County specifications must be brought to the attention of the County Project Manager.
- O. All applicable requirements of the Fairfax County Special Inspections Program must be reflected in the project specifications. The structural engineer must comply with all requirements of the Special Inspections Program including stamping shop drawings as reviewed or approved, as required.
- P. For buildings that are classified as critical structures under the Fairfax County Special Inspections Program <http://www.fairfaxcounty.gov/dpwes/publications/simcontents.htm>,

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the owner will hire a testing agency to perform all critical structure required inspections in the building. The Contractor shall still be responsible for all required testing and inspections not falling under the County’s Special Inspection Program. If the building is not classified as a critical structure, the Contractor shall have all required inspections performed in the building. The project specifications must reflect these inspection and testing requirements for the contractor.

- Q. The A/E shall coordinate with the Owner to determine if the facility is designated as an “Essential Facility”, and incorporate requirements for such facilities into the project plans and specifications.
- R. In buildings with fixed shelving and stacks, such shelving and stack floor areas, must be deducted from the net square foot floor area calculations.
- S. Fairfax County Office Space Standards

The Fairfax County Office Space Standards shall be adhered to in the space program for allocation of space indicated in the table below. The "Style" categories "A", "B", and "C" represent private (drywall) offices. Categories "D" through "G" are systems furniture workstations. Square footage figures are intended for planning purposes. Actual sizes of offices or workstations may vary due to the building floor plate, column placement, or standard workstation component dimensions.

Space Category	Title	Square Footage
Group A	Director	240 SF
Group B	Director & Assistant Director	180 SF
Group C	Director, Assist. Director, & Branch Chief	120 SF
Group D	Professional Staff	100 SF
Group E	Professional & Technical Staff	64 SF
Group F	Technical & Clerical Staff	48 SF
Group G	Temporary & Shared Workstations	30 SF

Table 01000-1 Fairfax County Office Space Standards

- U. Practices for Commercial Trash and Recyclables Handling
 1. Refer to Fairfax County Public Facilities Manual (PFM) Section 10-0300 for Solid Waste and Recycling system requirements, and PFM Plate 33-10 for site layout requirements for a two dumpster trash and recycling containers area. Any variations from these requirements shall be coordinated with the County Project Manager and DPWES Division of Solid Waste Collection and Recycling.
 2. Collection containers described by Section 109-5-5(e) of the *Code of the County of Fairfax* shall not obstruct access to sanitary sewer manholes. A clear zone is required

- for a distance of 3 feet around the rim of any sanitary sewer manhole cover to provide access to the sanitary line in the event of an emergency and an area for erection of equipment for safe entry into the manhole.
3. The recycling collection system within the building shall include central collection containers for office paper in copier/printer rooms and other major generation areas.
 4. If recycling carts are emptied directly into a dumpster or compactor, the receiving equipment should be clearly marked to identify it as a recycling unit; “Recyclable Paper and Cardboard Only, No Trash”.
 5. Recycling containers should be different and readily distinguished from those used for refuse.
 6. Trash and recycling rooms must be either:
 - a. Separated from the rest of the building by 2-hour fire rated construction or;
 - b. Protected by automatic sprinklers designed for Ordinary Group 2 Hazard in accordance with the currently adopted NFPA 13 Standard.
- V. Specifications shall require that the Contractor provide written, biweekly updates to the Owner/Architect detailing the status of all trade inspections including building, mechanical, electrical, plumbing, Fire Marshal, and Health Department, if applicable. Contractor’s written updates shall specifically identify all items of work, which have been rejected or otherwise not approved by inspectors.
- W. All projects are to be designed and constructed under the principals of Sustainable/ Green Building design, primarily as defined by United States Green building Council (USGBC), LEED®, unless County Project Manager provides written direction that it is not the requirement for the project. Target level of LEED® certification is to be silver certification. The A/E shall reflect the DPWES Green Building Design Guidelines shown in Appendix A (pending) in the project design documents, and shall clearly identify all products included in the specifications that contain post-industrial recycled content materials, and all regionally manufactured materials as defined by USGBC LEED® criteria. Selection of products to meet these guidelines shall be coordinated with the Owner prior to final specifications.
- X. All site retaining walls, freestanding monumental site signs, and bus shelters must be identified on the building permit application; otherwise, a separate building permit is required. The A/E is responsible to obtain all permits. As applicable, the pre-approved bus shelter model and plan control number must be shown on plans. A state building permit is also required for all bus shelters with any part located within the VDOT right-of-way.
- Y. The A/E shall verify and obtain the most current version of the “Code Reference Package

for Architects, Engineers, Designers and Installers” from the Fire Prevention Division of The Fairfax County Fire and Rescue Department (FRD), and all requirements of the Code Reference Package shall be reflected in the plans and specifications. A copy is available from the Fire Prevention Division’s website at:

<http://www.fairfaxcounty.gov/fr/prevention/fmpublications/crp2009.pdf>

- Z. Provide storage space identified as “FMD Storage” sized to house attic stock for the building. Locate FMD storage space within or adjacent to the mechanical room.

AA. Accessible Design

The ADAAG requirements and most recent Fairfax County Smart Design Task Force Report and Recommendations for Universal Design (Appendix B- pending) are to be used. Additional items noted in this section are minimum design guidelines that the A/E is encouraged to meet to provide a greater accessibility for the facility. In addition, the A/E shall coordinate closely with DPWES to strategize and determine a plan for how to most effectively allocate the 20% ADA required funding commitment for renovation projects. The building’s design shall:

1. Provide for equal access and use by everyone.
2. Provide for the usability of the design features in more than one prescribed way.
3. Make it easy to understand the purpose of each design feature and how to use it.
4. Provide all essential information in a variety of modes.
5. Eliminate, isolate or shield any design feature that could prove hazardous or inconvenience any user.
6. Employ design features that require little or no physical force to use them.
7. Provide an adequate amount of space in all program areas that is appropriately arranged to enable anyone to use them.
8. Provide seating, such as benches, seat walls, etc., along path of travel for those who cannot stand or walk long distances without resting.
9. Provide for accessible counters and sinks in break rooms and kitchenettes, and locate them in a central or easily reached area of a room. All accessible sinks shall have functioning cabinet doors.
10. Provide for easy maneuvering and passage by mobility devices such as wheelchairs, when selecting furniture and furnishings in all spaces, especially conference and meeting rooms
11. Provide adjustable desks, chairs, and podiums for conference and training rooms as applicable.
12. Provide fully automatic (sensor operated) or push-button activated automatic door (s) at the main public entrance.

II. PRODUCTS

- A. The A/E shall coordinate with the County Project Manager to identify any products or manufacturers that may need to be specified to be proprietary, or limited to less than three

acceptable manufacturers as No Substitution/No Equal Products. Justification for No Substitution/No Equal Products must be provided in advance.

- B. Any specified material, equipment or system which will be a No Substitution/No Equal Product, must be approved in writing by DPWES, prior to advertisement for bids. The County Project Manager will obtain a letter from the “No Substitution/No Equal Products” vendor prior to advertisement of bids, stating the value of the subject work, and that the same pricing will be provided to all the contractors.
- C. The A/E is responsible for verifying that the manufacturer and product numbers for all materials and products included in the specifications are current at the time of bid. This shall include verification of all material and product designations included in these Guidelines.
- D. No Asbestos Containing Materials (ACM) are permitted to be specified, or otherwise approved, for use on any County project, unless the County specifically provides advance written approval.