

Technical Standard Applicability Review Checklist



WILLIAM & MARY
CHARTERED 1693

Project Title

W&M Project Number

Instructions- Each section of the Technical Standard is listed below with a brief summary of the information contained in the section, please indicate your design "compliance" to the Technical Standard.

Section GR-1- General Information- Application of Manual, D&F, Roles, Definitions

Section GR-2- Coordination Requirements- Main contacts for aspects of work

Section DR-1- Design Principals- University Design Guidelines, Building Performance, Service Life

Section DR-2- Site Planning- Building Height, Parking, Loading Docks/Service Entry, Equip. Screens

Section DR-3- Functional and Space Planning Requirements- Space Guidelines (req. sqft), Room Numbering, Room-Specific Req.

Section DR-4- Building Dedication Plaques- Development, Approval

Section HP-1- General Information- Define Historical and Old Campus, Landmarks

Section HP-2- Archaeological Concerns- Investigation, Discoveries, Discoveries during Construction

Section 02 00 00- Existing Conditions- Demolition, Tree Removal, Lead Removal, Facility Remediation

Section 03 00 00- Concrete- Sealing

Section 04 00 00- Masonry- Brick Types, Prohibited Items, Parapet, Veneer, Stone/Slate, Thresholds, Cladding, Flashings

Section 06 00 00- Wood, Plastics, and Composites- Blocking, Carpentry, Prohibited Items

Section 07 00 00- Thermal and Moisture Protection- Steep Slope Roofs, Shingle Roofs, Membrane Roofs, Flashings, Roof and Wall Specialties and Accessories, Prohibited Items

Section 08 00 00- Openings- Doors and Frames, Metal Doors and Frames, Wood Doors, Windows, Skylights, Hardware, Gazing, Louvers and Vents, Prohibited Items

Section 12 00 00- Furnishings- Systems Furniture and Review Requirements

Section 14 00 00- Conveying Equipment- Elevator, Pits, Machine Rooms, Contractor Execution, and Prohibited Items

Section 21 00 00- Fire Suppression- Definitions, Protection During Construction, Fire Extinguisher, Wet Systems, Flow Tests, Water Line Separation, Individual Building Service, Sprinkler Heads, Elevator Coverage, Fire Pumps, Prohibited Items

Section 23 05 00- Common Work Results for HVAC- Systems Types to Use, Glycol, Backup Connections, Meters and Gauges, Hangers, Design Conditions and Capacity (Heat-72 Cool-75), Exhaust Requirements, Air Flow Control, Vibration and Sound Isolation, Location, System Identification, Testing and Balance, Energy Conservation, DDC, Freeze Protect and Sequence, Prohibited Items, Bldg. Pressure

Section 23 11 00- Facility Fuel Piping- Natural Gas Meters, Materials, and Valves

Section 23 22 00- Steam and Condensate Piping and Pumps- Availability, Design Criteria, Allowable Use, Prohibited Use, Valves, Pipe and Fitting Materials

Section 23 25 00- HVAC Water Treatment- Flush, Cleaning, Filtered, Central Plant Protection, Bypass, Notification, Observation, Shot Feeders, Contractor Respond., Owner Furnished Chemicals, Glycol

Section 23 32 00- Air Plenums and Chases- General Exhaust Use and Prohibited Use

Section 23 34 00- HVAC fans- Locations of Point of Use Fans, Outlet Manifolding, Free Velocity

Section 23 37 00- Air Outlets and Inlets- Prohibited Use, Schedule Information Required on Design Docs, Outside Air, System Type

Section 23 41 00- Particulate Air Filtration- Central Station Air Handling Units, Packaged Air Handling Units, Heat Recovery Devices, Filters

Section 22 00 00- Plumbing- Design Intent, Valves, Insulation Requirements, Meters Distribution Requirements, Existing Systems, Sanitary Sewer Requirements, Fixtures, Drinking Fountains, Gas, Emergency Fixtures, and Vacuum Systems

Section 23 09 00- Instrumentation and Control for HVAC- BAS, Monitoring, Vendors, Sensors, actuators, Sequence of Operation, Interlocks, Filter, Pumps, Vent Control, Temperature Control, Positioning Air Dampers, Vivaria, Labs, Emerg. Power, Smoke Detectors, and Dampers

Section 23 21 00- Hydronic Piping and Pumps- Swem Plant Capability, North Campus Plant Capability, Future West Plant Capability, Valves, Dissimilar Metals, Venting and Purging, Strainers, Filters, Cooling Coil Condensate

Section 23 23 00- Refrigerant Piping- Materials, Insulation, Sensors

Section 23 31 00- HVAC Ducts and Casings- SMACNA, Elbows, Take-Off Fittings, AHU Transitions, Duct Liner, Prohibited Items, Wet Locations Previsions, Plenum Boxes, Perforated Duct, Mixing Boxes, Cooling Coil casings and drip pans

Section 23 33 00- Air Duct Accessories- Fire Dampers, UL listings, Outside Air Dampers

Section 23 36 00- Air Terminal Units- Control Devices and control valves

Section 23 38 00- Ventilation Hoods- Kitchen Hoods, Fume Hoods, alarms, fire resistance, controls, combined exhaust

Section 23 50 00- Central Heating Equipment- Steam and Hot Water Heat Exchanger piping, two way control valves

Section 23 60 00- Central Cooling Equipment- Protective devices, capacity control, and prohibited items for: Refrigerant compressors, Packaged Compressor and Condenser Units, Refrigerant Condensers, Packaged Water Chillers. Cooling towers fan blades to be aluminum, VFDs to be direct coupled, and filtering req.

Section 23 74 00 - Packaged Outdoor HVAC Equipment- Same req. as air handling equipment

Section 26 05 00- Common Work Results for Electrical- Conduit, Wiring, Identification of Elec. System and devices, Demo

Section 26 21 00- Low-Voltage Electrical Service Entrance- Utility Ownership, Primary Feeds- Dominion Power, Secondary Feeds- University, New Service and min. calcs.

Section 26 24 00- Switchboards and Panelboards- Elec. Room req., bussing req., directories, surge protection, spare capacity, bottom fed, front venting not to be used

Section 26 29 00- Low-Voltage Controllers- Motors- all high efficiency type, service factor of 1.1 or better meet NEMA MG1-1993 rev. 1 through 4, table 12-10, perm. Lub bearings only. 1/2 hp and above shall be 3 phase. Motor control for all light duty and fractional motors (except fractional light duty motors); upper voltage protection for momentary contact and under voltage release when using maintained contact control. Phase monitoring required for 3 phase motors. VFD requirements.

Section 23 70 00- Central HVAC Equipment- Air to Air Recovery System req. when preconditioned outdoor air is delivered directly to occupied space or terminal HVAC equip. Central HVAC equip. shall be wrap-around heat pipe tech when payback is less than 15 years. Indoor Central-Station Air-Handling Units shall have single point elec. hookup; freeze protection to stop supply fan, close the outside damper, and open heat control valve; all heating and cooling coils shall be provided with pressure independent two way control valve.

Section 23 80 00- Decentralized HVAC Equipment- Decentralized Unitary HVAC Equipment shall be location of this equipment shall be located above ceilings in corridors for serviceability. Radiant Heat Units are used near large windows and exterior walls and shall be interlocked with AHU/zone control, shall be supplied from building LTHW closed loop system; two way control valves shall be provided.

Section 26 09 00- Instrumentation and Control for Electrical Systems- Metering, BAS Monitoring, Meter Accuracy

Section 26 22 00- Low Voltage Transformers- Interior Transformers noise, dry and liquid type req.

Section 26 27 00- Low-Voltage Distribution Equipment- Ground fault circuit interrupt req. on main breakers and on all sub breakers, tripping sub before main breaker. Device duty shall be 20A heavy duty. No residential grade devices. UP position for ground pole in all 15, 20amp 125 volt general receptacles. DOWN position for ground pole for all equipment such as dryers, refrigerators, etc. Stairwells to have receptacle at each landing, wet locations to have "in use covers"

Section 26 51 00- Interior Lighting- Use of and location of Occupancy sensors. Use of and location of multiple circuits and switching. LED used as basis of design, fluorescent fixtures must be approved and must be T8 or compact fluorescent. Lamp temp shall be 3500 K. 2'x2' fixtures only. Exit signs to be red LED. Non-catalog and custom fixtures not to be used. Lights to be services from an eight foot ladder. Req. light levels and mounting locations.

Section 26 56 00- Exterior Lighting- Req. illumination levels, fixture types, pole mounted lights, lighting control, numbering and as-builts.

Section 28 10 00- Electronic Access Control and Intrusion Detection- Building Entrances, Location of Systems, Monitoring

Section 28 31 00- Fire Detection and Alarm- Simplex, Reporting, Modification to Existing, Panel Mounting, Hold Open Devices, Voice Alarm, Conduit Requirement, Annunciation, Smoke Detector

Section 31 00 00- Earthwork- Land Disturbance, Site Clearing, Protection, Excavation, Backfilling, Soil Treatment

Section 33 05 00- Common Work Results for Utilities- Tree/Plant Protection, Identification, Tunnels, Utility Sources

Section 33 30 00- Sanitary Sewerage Utilities- DEQ, Piping, Separation from Other Utilities, Slope, Manholes, Watertightness

Section 33 60 00- Hydronic and Steam Energy Utilities- Hot Water, Chilled Water, Valves, Vaults, Ground Cover, Backfill

Section 27 00 00- Communications- In building Emergency Communications req. in all new and renovated buildings. A/E to coordinate riser diagram and system req. to supply necessary conduits to support cable install. University installs cabling. Cable TV location and operations, cable by university, conduit/boxes/backboard by project.

Section 28 23 00- Video Surveillance- Location, Infrastructure Requirements

Section 28 34 00- Fuel-Oil Detection and Alarm- BAS and Hardware Requirements

Section 32 00 00- Exterior Improvements- 100 Year Flood, VA Stormwater Management, Surface Drainage, Flexible Paving, Rigid Paving, Curb/Gutter/Sidewalks/Driveways, Surface Markings, Bollards, Signs, Emerg. Phones, Benches, Trash Recep., Irrigation, Planting, Soil, Plant Warranty

Section 33 10 00- Water Utilities- Sizing, Cover, Materials, Meters, Fire Protection Service

Section 33 40 00- Storm Drainage Utilities- Design Standard, Runoff Calcs, Roof Drainage, Foundation/Retaining Wall Drainage, Culverts, Oil Separation (DCR), Manholes, Catch Basis, Yard Inlets, VDOT Standard Structures

Section 33 80 00- Communications Utilities- Code Blue Stations, Direct Buried Conduit, Cable, Fiber Optic