



## DIVISION 11 EQUIPMENT

### GENERAL

Special equipment shall be designed with the following considerations:

1. Integration with existing systems, equipment or programs
2. Service and maintenance access
3. Maintenance and service life
4. Education of users regarding proper operation of equipment
5. Warranty provisions
6. Replacement parts
7. Recycled content

The Designer should consult with the Office of Information Technology and Audio Visual Services for audiovisual equipment and projection equipment selection criteria and hookup requirements.

### ENERGY STAR DESIGN PARAMETERS

Energy Star rated equipment is required for commercial dishwashers, fryers, griddles, hot food holding cabinets, ice machines, ovens, refrigerators and freezers, and steam cookers as well as any other product category as ratings become available.

### LABORATORY EQUIPMENT

The Owner may purchase movable equipment, such as balances, refrigeration equipment, centrifuges and other portable laboratory equipment. The Consultant shall closely coordinate the electrical and plumbing tie-ins for this equipment.

Casework generally shall comply with requirements of Division 6 with regard to wood construction and as a basis for manufactured casework. Casework designed for storage of sensitive equipment or for chemical storage shall have locks.

Vacuum and air connections shall be employed in laboratory areas, and gas connections shall be employed where required. Vacuum breakers shall be provided on faucets.

Laboratory casework shall be placed with at least 5 feet between benches to allow for handicap accessibility.

Refrigeration equipment used in laboratory areas may be purchased by the Owner and installed by the Contractor. Refrigeration equipment used for critical experimentation must be placed on emergency electrical back-up service. Consult with the American

University Master Electrician to confirm generator load capacity.



#### PARKING CONTROL EQUIPMENT – 11 12 00

The Owner currently contracts with parking control vendors to supply this equipment. The Contractor shall supply conduit and wiring to the site of the equipment, and the Owner is responsible for the installation and final connection. The Owner shall supply equipment, drawings and electrical requirements to the Consultant for reference.

Provision should be made for Card Reader equipment to be set in a 3/4" conduit to run from the stand to the gate box. Confirm Pay Box requirements with Transportation and Park Services.

#### LOADING DOCK BUMPERS – 11 13 13

Dock bumpers shall be provided at loading areas. Coordinate with Facilities Management, Auxiliary Services and department to confirm delivery vehicle types for placement and size of bumpers.

#### LOADING DOCK EQUIPMENT – 11 13 19

Loading dock edges shall be provided with steel angle edging with steel anchors concealed in concrete. The use of motorized dock levelers is not recommended; the Consultant shall accomplish proper driveway back-up clearance for vehicles on "flat grade" to the dock area, at the height of the vehicles most commonly serving the building.

#### RESIDENTIAL APPLIANCES – 11 30 13

Equipment selection criteria shall include operating energy rating and usage along with performance. Consult with Housing and Residence Life for the most recently approved list of appliances and requirements.

#### FOOD SERVICES EQUIPMENT- 11 40 00

Where food service areas are part of the project, the designer shall consult with Planning and Project Management and Office of Campus life (OCL) for design and layout of the space. Food service equipment may be purchased by American University and provided to the Contractor for connection. Refer to the products sections for equipment currently used in food service locations.

Refrigerators, microwave ovens and coffee makers used in lounges or break rooms may be purchased by the Owner. The designer shall provide dedicated electrical circuitry for these items.

#### LABORATORY FUME HOODS – 11 52 13

Fume hoods and bio-safety hoods may be purchased by the Owner and installed by the  
EQUIPMENT



Contractor. The Consultant shall give special attention to ventilation requirements, particularly taking into consideration the types of chemicals used in the laboratories, air velocity sensing devices and the need for emergency back-up power.

Motorized elements such as fans shall be designed to provide protection suited to the type of chemicals used. Safety of the user is of highest priority in hood sash (and opening) design and in the design of ventilating storage cabinets. New fume hood design strategies have been demonstrated to reduce energy use by 75%, while maintaining or enhancing safety. Therefore, High Performance, energy efficient fume hoods (e.g. VAV system equipped with a sensor-based auto sash closure) are required.

#### FACILITY WASTE BALERS – 11 82 36

Designers should consult with Facilities Management prior to including balers, toters, and dumpsters or compactors in their design. All waste is collected in AU's standard Zero Waste Interior Containers. These materials either are then transported to toters or designated compactors outside. All materials hauled off campus by a contractor is only large open tops or 34 yd. compactors. This type of equipment shall be furnished by the Owner, Contractor Installed.

Waste compactors when included shall have push button controls totally enclosed with dock-fed hopper, guide rolls/stop and hinged breaker bar teeth

Cardboard bales are picked up by internal AU recycling staff and transported to the 15 yd. open top(s) designated for cardboard recycling. Loose and bailed cardboard are collected in this open top that has a covered lid to protect from weather elements. Cardboard is sent to an off-campus recycling facility.

END OF DIVISION 11