

4. EQUIPMENT

In this edition appendix material appears in the main body of the document; however, it remains advisory only.

4.1 General

4.1.A.

An equipment list showing all items of equipment necessary to operate the facility shall be included in the contract documents. This list will assist in the overall coordination of the acquisition, installation, and relocation of equipment. The equipment list should include the classifications identified in Section 4.2 below and whether the items are new, existing to be relocated, owner provided, or not-in-contract.

***4.1.B.**

The drawings shall indicate provisions for the installation of equipment that requires dedicated building services or special structures or that illustrate a major function of the space. Adjustments shall be made to the construction documents when final selections are made.

4.1.C.

Space for accessing and servicing fixed and building service equipment shall be provided.

4.1.D.

Some equipment may not be included in the construction contract but may require coordination during construction. Such equipment shall be shown in the construction documents as owner-provided or not-in-contract for purposes of coordination.

4.2 Classification

Equipment will vary to suit individual construction projects and therefore will require careful planning. Equipment to be used in projects shall be classified as building service equipment, fixed equipment, or movable equipment.

4.2.A. Building Service Equipment

Building service equipment shall include such items as heating, air conditioning, ventilation, humidification, filtration, chillers, electrical power distribution, emergency power generation, energy/utility management systems, conveying systems, and other equipment with a primary function of building service.

4.2.B. Fixed Equipment (Medical and Nonmedical)

4.2.B1. Fixed equipment includes items that are permanently affixed to the building or permanently connected to a service distribution system that is designed and installed for the specific use of the equipment. Fixed equipment may require special structural designs, electromechanical requirements, or other considerations.

a. Fixed medical equipment includes, but is not limited to, such items as fume hoods, sterilizers, communication systems, built-in casework, imaging equipment, radiotherapy equipment, lithotripters, hydrotherapy tanks, audiometry testing chambers, and lights.

b. Fixed nonmedical equipment includes, but is not limited to, items such as walk-in refrigerators, kitchen

cooking equipment, serving lines, conveyors, mainframe computers, laundry, and similar equipment.

4.2.C. Movable Equipment (Medical and Nonmedical)

***4.2.C1.** Movable equipment includes items that require floor space or electrical and/or mechanical connections but are portable, such as wheeled items, portable items, office-type furnishings, and diagnostic or monitoring equipment. Movable equipment may require special structural design or access, electromechanical connections, shielding, or other considerations.

a. Movable medical equipment includes, but is not limited to, portable X-ray, electroencephalogram (EEG), electrocardiogram (EKG), treadmill and exercise equipment, pulmonary function equipment, operating tables, laboratory centrifuges, examination and treatment tables, and similar equipment.

b. Movable nonmedical equipment includes, but is not limited to, personal computer stations, patient room furnishings, food service trucks, case carts and distribution carts, and other portable equipment.

c. Facility planning and design shall consider the convenient and dedicated placement of equipment requiring floor space and mechanical connections and the voltage required for electrical connections where portable equipment is expected to be used. An equipment utility location drawing shall be produced to locate all services required by the equipment.

***4.3 Major Technical Equipment**

Major technical equipment is specialized equipment (medical or nonmedical) that is customarily installed by the manufacturer or vendor. Since major technical equipment may require special structural designs, electromechanical requirements, or other considerations, close coordination between owner, building designer, installer, construction contractors, and others is required.

4.4 Equipment Shown on Drawings

Equipment that is not included in the construction contract but requires mechanical or electrical service connections or construction modifications shall, insofar as practical, be identified on the design development documents to provide coordination with the architectural, mechanical, and electrical phases of construction.

4.5 Electronic Equipment

Special consideration shall be given to protecting computerized equipment such as multiphasic laboratory testing units, as well as computers, from power surges and spikes that might damage the equipment or programs. Consideration shall also be given to the addition of a constant power source where loss of data input might compromise patient care.

A4.1.B.

Design should consider the placement of cables from portable equipment so that circulation and safety are maintained.

A4.2.C1. Examples of movable equipment include operating tables, treatment and examination tables, laboratory centrifuges, food service trucks and other wheeled carts, and patient room furnishings.

A4.3 Major Technical Equipment

Examples of major technical equipment are X-ray and other imaging equipment, radiation therapy equipment, lithotripters, audiometry testing chambers, laundry equipment, computers, and similar items.