

11 00 00. EQUIPMENT**11 00 03. GENERAL PROVISIONS**

- .1 Refer to Division 00 PROCESSING THE WORK, paragraph 00 00 37, Furniture, Fixtures and Equipment (FF&E)
- .2 DESIGNS: The A/E shall provide layouts of both Movable and Fixed Equipment identified in the Program of Requirements (POR) to ascertain function and space usage for the project. Submittals are required as outlined in the Architect/Engineer (A/E) Agreement for Basic Services.

The A/E shall specify all utility fittings and fixtures for equipment equal to that specified for the Divisions for Facilities Services Subgroup.

The A/E shall specify that all Automatic Shut-off Valves have a 10 year written warranty.

- .3 CONSTRUCTION COORDINATION: The A/E shall clearly define contractor responsibilities relative to receiving, storage and installing. Installation is to include any hook-up required.

The A/E is to locate and coordinate all blocking, support and services for installation of all items in this Division.

11 01 92 FALL PROTECTION (ROOFS)**Part I – GENERAL****.1.1 Commentary:**

- .1.1.1 *The intent of this standard is to ensure the safety of all authorized university employees performing work on roofs at the university and provide a safe work area.*
- .1.1.2 *It is the intent of the university to not use mechanical attachment points, cables, or any other device that requires certification.*
- .1.1.3 *A more permanent passive means of fall protection to prevent a fall is preferred. Such means include parapet walls and guardrail systems.*

.1.2 REFERENCES

- .1.2.1 ANSI A10.32-2004 Fall Protection Systems for Construction and Demolition Operations
- .1.2.2 ANSI Z359.0-2007 Definitions and Nomenclature Used for Fall Protection and Fall Arrest

- .1.2.3 OSHA 29 CFR PART 1910 Subpart D Walking and Working Surfaces
- .1.2.4 OSHA 29 CFR PART 1910 Subpart I Personal Protective Equipment
- .1.2.5 OSHA 29 CFR PART 1926 Subpart M Fall Protection

.1.3 DEFINITIONS

- .1.3.1 Fall Protection – Any equipment, device or system that prevents an accidental fall from elevation or that mitigates the effect of such a fall.
- .1.3.2 Fall Arrest System – The equipment components that are configured to arrest (stop) a free-fall.
- .1.3.3 Travel (Fall) Restraint System – A device or devices (e.g. a lanyard short enough) that limits travel to prevent a user’s center of gravity from reaching a fall hazard.
- .1.3.4 Safe Work Zone – The area of a roof demarcated to indicate that work can safely be performed without the use of fall protection.

Part II – PRODUCTS

- .2.1 To ensure the safety of authorized Ohio State employees working on roofs, the design team is to generate a design and drawings for:
 - .2.1.1 Establishing a safe work environment
 - .2.1.2 A method for performance of the most work with the least impact to workers
 - .2.1.3 A method to perform all maintenance items required on the particular roof.
 - .2.1.4 Fall protection system requiring minimum maintenance, no annual certification, and least aesthetic impact to the building,
 - .2.1.5 The use of mechanical anchor points or horizontal life lines are to be used only with the concurrence of the Project Manager, TSG, Operations, and EHS.

Commentary: *the following approaches can be considered in order of preference:*

- .1 A 42” parapet is to be around the perimeter of the roof.
- .2 A 42” guardrail - is to be around the perimeter of the roof.
- .3 A “Safety Line” of a different color than the roof is to be installed 10’ from all edges of the roof defining a “Safe Work Zone” which the workers must

remain within. All equipment and roof drains must be able to be maintained within the Safe Work Zone.

- .4 If the roof edge requires maintenance, it must be accessed from a bucket truck or other means from the ground.
- .5 If any work on a roof is required outside the “Safe Work Zone”, an outside contractor, responsible for their own fall protection, is to be called for the investigation and repair.

.2.2 SIGNAGE

- 2.2.1 Following the University’s Signage Standards, a laminated sign shall be posted on all entry points to the roof reinforcing safe work practices.

Commentary:

As an example: “No university employee is permitted outside the Safe Work Zone. If work is required outside the Safe Work Zone, a contractor is to be hired.”

- .2.2.2 A laminated roof plan is to be posted adjacent the above signage illustrating the Safe Work Zone which the university authorized worker must remain within.

.2.4 OTHER ROOF HAZARDS

- .2.4.1 Any roof opening has a potential for causing falls, trips or hazards from objects falling through the opening.
- .2.4.2 Openings including skylights and small openings shall be protected by use of guardrails, covers, or other fall protection measures as appropriate.
- .2.4.3 Roof hatches shall be protected by guardrails with a safety swing gate.
- .2.4.4 Additional locations that shall be designed to include fall protection measures as an essential part of the design include catwalks, areas above dangerous equipment, and hoist areas. Refer to OSHA regulations for additional details.
- .2.4.5 Toe-boards shall be provided where appropriate as a protection from falling objects
- .2.4.6 Ladders: provide guardrails, safety swing gate and platforms as required to provide a safe pathway from the roof edge for a minimum distance of six (6) feet.

11 10 00. VEHICLE AND PEDESTRIAN EQUIPMENT**11 13 00. LOADING DOCK EQUIPMENT**

.1 DESIGNS: All product specifications, accessory items, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.

.2 BUDGET ALLOCATIONS: All Loading Dock Equipment is considered Fixed Equipment and acquired through one or more of the Construction contracts within the project budget

11 14 00. PEDESTRIAN CONTROL EQUIPMENT

.1 DESIGNS: All product specifications, accessory items, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.

If the Program of Requirements calls for pedestrian control but does not detail the requirements for pedestrian control, the University Project Manager will consult the using agency and the Department of Public Safety and will indicate the kind of control devices required.

Control devices shall be planned to provide ample room for the passage of wheelchairs and crutches. The University Architect and ADA Coordinator will review these devices for clearances per ADA requirements.

.2 CONSTRUCTION COORDINATION: The A/E is to coordinate all Pedestrian control devices that are used in conjunction with electronic security systems. Installations will require close coordination with electrical installations.

11 20 00. COMMERCIAL EQUIPMENT**11 21 00. MERCANTILE AND SERVICE EQUIPMENT****11 21 23. VENDING EQUIPMENT**

.1 DESIGNS: Vending equipment will be provided under separate contracts with a franchisee. All required power, data, plumbing, lighting and planning for these services shall be a part of the Construction Documents.

11 24 00. MAINTENANCE EQUIPMENT

.1 DESIGNS: All product specifications, accessory items, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents. The A/E shall be alerted to plan for the storage and service needs of all equipment within maintenance rooms.

- .2 BUDGET ALLOCATIONS: Fixed maintenance equipment will be acquired through one or more of the Construction contracts within the project budget. Movable service maintenance equipment for a project is acquired by the University utilizing a fund allocation within the total project funds but independent of the Construction budget.

11 26 00. UNIT KITCHENS

- .1 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.
- .2 BUDGET ALLOCATIONS: Fixed Unit Kitchens shall be considered Fixed Equipment and are funded within the Construction Budget.

11 28 00. OFFICE EQUIPMENT

- .1 Refer to DIVISION 00 PROCESSING THE WORK, paragraph 00 00 37, Furniture, Fixtures and Equipment (FF&E) and Division 12 Furnishings.

11 29 00. POSTAL, PACKAGING AND SHIPPING EQUIPMENT

- .1 Refer to Division 10 Specialties and Division 12 Furnishings.
- .2 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.
- .3 BUDGET ALLOCATIONS: Fixed Postal and Shipping Equipment shall be considered Fixed Equipment and are funded within the Construction Budget. Movable Postal and Shipping Equipment is considered Movable Equipment and acquired by the University utilizing a fund allocation within the total project funds but independent of the Construction budget.

11 50 00. EDUCATIONAL AND SCIENTIFIC EQUIPMENT**11 51 00. LIBRARY EQUIPMENT****11 51 19. BOOK THEFT PROTECTION EQUIPMENT**

- .1 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.

- .2 BUDGET ALLOCATIONS: Theft Protection and security equipment items shall be considered Fixed Equipment and are funded within the Construction Budget.

11 51 23. LIBRARY STACK SYSTEMS

- .1 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents. The Building Design and Construction Documents must include all structural requirements, services and construction coordination for the installation of this equipment.
- .2 BUDGET ALLOCATIONS: Library Stack Systems shall be considered Fixed Equipment and are funded within the Construction Budget. In some cases, the university may choose to purchase Library Stack Systems for a project. In these cases, the cost of the equipment is moved from Construction funds to Equipment funds for purchase.

11 51 23.13 METAL LIBRARY SHELVING

- .1 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents. The building design and construction documents must include all structural requirements, services and construction coordination for the installation of this equipment.

The University has selected standard products for use. All proposals shall require approval of the University Architect prior to finalization of the Construction Documents.
- .2 BUDGET ALLOCATIONS: Metal Library Shelving shall be considered Fixed Equipment and are funded within the Construction Budget. In some cases, the University may choose to purchase Metal Library Shelving for a project. In these cases, the cost of the equipment is moved from Construction funds to Equipment funds for purchase.

11 52 00. AUDIO VISUAL EQUIPMENT

- .1 DESIGNS: Audio-Visual equipment is considered Technology. Both Fixed and Movable Technology design and specifications may be provided by the university through separate Contracts. The timing for technology design must coincide with the development of Construction Documents prior to bidding. The A/E must be involved in the development of the technology design and be responsible for the coordination of equipment locations, required blocking and other construction needs, required power, data and associated services to this equipment.

- .2 BUDGET ALLOCATIONS: Audio-Visual Equipment shall be considered Fixed Equipment or Movable Equipment.
 - .2.1 FIXED EQUIPMENT: Examples of Fixed Audio-Visual Equipment are motorized projection screens and projector lifts which need to be provided and installed by a General Contractor.
 - .2.2 MOVABLE EQUIPMENT: Examples of Movable Equipment are projectors, speakers, equipment racks, rack equipment and podiums.
- .3 CONSTRUCTION COORDINATION: The A/E is to coordinate all required power and services leading to Fixed and Movable Audio-visual locations on the Construction Drawings. Provide detailed riser diagrams and special attention to ceiling mounted projectors locations, equipment rack locations, and podium locations. The ceiling projector pole mount and location will be furnished by the university for Construction Contractor installation.

11 52 13. PROJECTION SCREENS

- .1 DESIGNS: The University will provide detailed specifications for all classroom and conference room projection screens.
- .2 MOTORIZED AND RECESSED SCREENS: All motorized and recessed ceiling screens will be considered Fixed Equipment and provided as part of the Construction Documents.
- .3 WALL MOUNTED PROJECTION SCREENS: All classroom and conference room projection screens will be considered Fixed Equipment and provided as part of the Construction Documents.
- .4 Refer to https://fod.osu.edu/sites/default/files/projection_screen_procedures_0.pdf

11 53 00. LABORATORY EQUIPMENT

- .1 Refer to Appendix W for Laboratory equipment details. https://fod.osu.edu/sites/default/files/app_W_06Fin.doc
- .2 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.
- .3 BUDGET ALLOCATIONS: Unless otherwise noted, all Laboratory equipment items shall be considered Fixed Equipment and are funded within the Construction Budget. In some cases the university may choose to purchase metal Laboratory shelving for a project. In these cases, the cost of the equipment is moved from Construction funds to Equipment funds for purchase.

11 55 00. PLANETARIUM EQUIPMENT

- .1 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.
- .2 BUDGET ALLOCATIONS: Unless otherwise noted, all Planetarium equipment shall be considered Fixed Equipment and are funded within the Construction Budget.

11 56 00. OBSERVATORY EQUIPMENT

- .1 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.
- .2 BUDGET ALLOCATIONS: Unless otherwise noted, all Observatory equipment shall be considered Fixed Equipment and are funded within the Construction Budget.

11 60 00. ENTERTAINMENT EQUIPMENT

- .1 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.
- .2 BUDGET ALLOCATIONS: Unless otherwise noted, all Entertainment Equipment shall be considered Fixed Equipment and are funded within the Construction Budget. Exceptions to this are smaller Movable Equipment items which will be purchased by the university as Movable Equipment.

11 65 00. ATHLETIC AND RECREATIONAL EQUIPMENT

- .1 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.
- .2 BUDGET ALLOCATIONS: All Athletic and Recreational Equipment shall be considered Fixed Equipment and are funded within the Construction Budget. Exceptions to this are smaller Movable Equipment items which are acquired by the university utilizing a fund allocation within the total project funds but independent of the Construction budget.

11 70 00. HEALTHCARE EQUIPMENT

- .1 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect and the **Wexner Medical Center stakeholders** prior to the final development of the Construction Documents. Coordination and documentation of building utilities, support systems, blocking and structural support systems are the responsibility of the A/E.

The A/E shall provide layouts of both Movable and Fixed Equipment identified in the Program of Requirements (POR) to ascertain function and space usage for the project. Submittals are required as outlined in the Architect/Engineer (A/E) Agreement for Basic Services.

- .2 BUDGET ALLOCATIONS: All Healthcare Equipment shall be considered Fixed Equipment and are funded within the Construction Budget. In some cases, the university may choose to purchase Healthcare Equipment for a project. In these cases, the cost of the equipment is moved from Construction funds to Equipment funds for purchase.
- .3 Smaller Movable Equipment items are considered movable equipment and are acquired by the University utilizing a fund allocation within the total project funds but independent of the Construction budget.
- .4 **Wexner Medical Center: Smaller Movable Medical Equipment items are considered minor medical equipment and are acquired by the University utilizing a fund allocation within the total project funds but independent of the Construction budget.**

END OF DIVISION 11 - EQUIPMENT