

00705 Building Service Areas

Part 1: General

1.01 The placement of break areas and/or vending machines within buildings is for the convenience of students, faculty and employees of the University. Access to and availability within a particular building should be based on the overall occupancy of the building and the visitation patterns within the building. Another consideration is the availability of these services at other adjacent buildings in the immediate area that are a part of the building's campus neighborhood.

1.02 Space consideration should be made to incorporate these services within the design of all new buildings. When renovations are made to existing buildings, the present availability or need for these services should be considered as part of the renovation.

Part 2: Design Criteria for Break Areas

2.01 Break Areas should be considered in the design of any new building or the renovation of any building that anticipates either a high occupancy rate or a high traffic pattern (Example: classrooms).

2.02 Break Areas should be designed to serve multiple purposes and can combine several different functions at one location. Among those to be considered: Kitchen area (refrigerator, microwave, cabinet top and utensil storage, etc.), lunch and break room, informal meeting room, vending machines, recycling, first aid room, etc. The more purposes built into the break room, the greater the traffic flow to the area.

Part 3: Design Criteria for Vending Machines

3.01 Vending Machines should have at least ten square feet (35"X41") allocated for each vending machine that will be placed at a vending machine/break room site. Three to five vending machines are usually placed at one of these sites. In addition, there should be space allowed for trash and recycling containers.

3.02 Vending Machines should be located in building interiors, in high traffic areas, and should be located in close proximity to loading docks.

3.03 Vending Machines should be located on the ground floor in buildings that do not have a service elevator. (When an elevator is available, the machines should be placed in close proximity to the elevator so that the machines can be restocked and maintained.)

3.04 Vending Machines should not be located in exit corridors, stairwells, or other areas that would create safety or fire hazards.

Part 4: Design Criteria for Interior Recycling

4.01 Interior Recycling: As a general rule, use 3.8 cubic yards of paper generated per 100 employees per month to determine the number of white office paper containers per building. In addition to white paper, separate containers can be added for each type of material collected, such as office fiber/colored paper, magazines, beverages and newspapers. (For further information, contact Facilities Operations/Recycling Operations.)

4.02 Interior recycling collection should be centralized whenever possible. This occurs when there is one location per building, or one per floor depending on the building use. The number of collection locations must be sighted to allow efficient collection.

4.03 Interior Recycling collection areas should be in a convenient location near routine circulation paths such as bathrooms, break rooms, mail rooms vending and copy machines and elevators. These areas must not be located in egress corridor alcoves.

4.04 "Collection Standard" A Centralized Site consists of five containers: four 44-gallon and one 95-gallon Blue Poly cart with lid, wheels and tipper rails (Contact Facilities Operations/Recycling Operations.)

4.05 The number and size of recycling rooms should be in proportion to the building size and use. Office and administrative buildings need one room per floor with space for 5 to 10 44-gallon recycle carts (approximately 400 sf). Typical container height is 40". Classroom and lab buildings require one central recycling location on the ground floor near the service entrance. This area should also be at least 400 sf. Recycling rooms should be equipped with fire alarms and sprinklers. Doors should be held open with magnetic contacts. Residence halls require outside recycling areas.

4.06 Break rooms should have the ability to accommodate one 95-gallon Beverage bin. Copy rooms should have the space for one 45-gallon Paper bin.

Part 5: Design Criteria for Custodial Areas

5.01 Custodial Service Space shall be designed and located in all new construction, renovations, and additions for the optimum ease of use, economy, and ergonomic consideration with the following guidelines as a minimum requirement. The ownership of all custodial space created whether through new construction, renovations or additions shall be vested in the Facilities Operations Department of North Carolina State University.

5.02 CUSTODIAL RECEIVING AND BULK STORAGE ROOM-Room shall be located on ground level near loading dock or service entrance. Door shall swing onto corridor, to capitalize space requirements. Door type and hardware see (NCSU Construction Guidelines). The following shall be standard equipment in:

- a) Room shall be a minimum dimensions of 12'x16' as required in buildings of 40,000 SQFT or greater. This room shall accommodate a 30-day supply of cleaning items (soap, towels, bulk boxed items, Burnisher Buffer, Housekeeping carts, and etc.

- b) Room shall have a ceiling exhaust fan with the appropriate CFM that will provide a minimum of 15 to 20 air changes per hour. The installation shall comply with National /Local Building Codes.
- c) There shall be GFI duplex electrical outlets in space. The installation shall comply with National /Local Building Codes.
- d) There shall be liberal amount of 18" to 24" deep ¾" thick adjustable shelving installed at 48" A.F.F
- e) There should be space for a 24x36 bulletin board installed on wall to post MSDS, OSHA memos, and etc.
- f) Shatter proof or shield ceiling florescent lighting sufficient to read label, and instructions on chemicals. The installation shall comply with National /Local Building Codes.
- g) Water heaters, electrical panels, pipe chases, entrance doors to adjoining rooms, and etc. shall not be permitted in housekeeping space.
- h) Wall covering shall be of hard waterproof surfaces. Preferably sealed concrete or epoxy paint.
- i) Floors shall be terrazzo, ceramic tile; sealed concrete, or painted with non-slip epoxy paint. Floors shall have a continuous 6" base made from same materials.
- j) Water heaters, electrical panels, pipe chases, entrance doors to adjoining rooms, and etc. shall not be permitted in housekeeping space.

5.03 CUSTODIAL CLOSETS - A custodial closet shall be provided for every 22,000-sq. ft. of floor space, with a minimum of one per floor, which should be located near elevators or restrooms. The closet size should not be less than 100 sq. ft., (10'x10'). The closets are the primary workstations for the individual housekeepers. Door shall swing onto corridor, to capitalize space requirements. Door type and hardware see (NCSU Construction Guidelines). The following shall be standard equipment in closet:

- a) Chemical and stain resistant 20x32x6 deep floor mounted pre-cast mop-ceptor.
- b) 36" shelf above mop-ceptor.
- c) Mop strip with holders above mop-ceptor.
- d) Mop-ceptor faucet shall have threaded spout.
- e) Pail hooks and 6-foot hose with bracket.
- f) There should be space for an 18x24 bulletin board installed on wall to post MSDS, OSHA memos, and etc.
- g) Small locker to contain personal garments and items
- h) There shall be liberal amount of 18" to 24" deep ¾" thick adjustable shelving installed at 48" A.F.F
- i) Shatter proof or shield ceiling florescent lighting sufficient to read label, and instructions on chemicals. The installation shall comply with National /Local Building Codes.
- j) Room shall have a ceiling exhaust fan with the appropriate CFM that will provide a minimum of 15 to 20 air changes per hour. The installation shall comply with National /Local Building Codes.

- k) There shall be GFI duplex electrical outlets in space. The installation shall comply with National /Local Building Codes.
 - l) There shall be a floor drain, with the entire floor sloped a minimum of ¼” per foot, to the floor drain is required.
 - m) All floor drains should have access to a hose bid or Trap Primer. This will provide needed water to the floor drain and provide a constant water seal and prevent objectionable sewer gases from escaping into the air.
 - n) Wall covering (Minimum 4'-0" high above finished floor) shall be covered with hard, waterproof surfaces, preferably ceramic tile, sealed concrete, or epoxy paint.
 - o) Floors shall be terrazzo, ceramic tile, sealed concrete, or painted with non slip epoxy paint. Floors shall have a continuous 6” base made from same materials.
- Water heaters, electrical panels, pipe chases, entrance doors to adjoining rooms, and etc. shall not be permitted in housekeeping space.

5.04 CUSTODIAL MULTIPURPOSE OFFICE - In new buildings, renovations and major additions, a custodial multipurpose office shall be provided. This space should be a minimum of 10-ft.x12 ft. equipped as a typical office. One Multipurpose Office per Zone is needed to provide for two staff members. Zone Manager and G UW will utilize space for meetings, staff training, and administrative duties. Custodial Multipurpose Office shall be located adjacent to Receiving and Bulk Storage Room. Door type and hardware see (NCSU Construction Guidelines). The following shall be standard equipment to accommodate in room:

- a) Steel key vault with combination lock shall be provide by university, and installed permanently to wall by contractor
- b) Room shall have an HVAC. The installation shall comply with National /Local Building Codes.
- c) Wall shall be furred and GYP. BD., primed, and painted.
- d) There shall be duplex electrical outlets in space. The installation shall comply with National /Local Building Codes.
- e) Floor shall be carpet or VCT
- f) There should be space for a 30x48 bulletin board installed on wall to post MSDS, OSHA memos, and etc.
- g) Shatter proof or shield ceiling florescent lighting sufficient to read label, and instructions on chemicals. The installation shall comply with National /Local Building Codes.
- h) Room shall be pre-wire for Telephone and computer jacks.
- i) There shall be liberal amount duplex electrical outlets in space. The installation shall comply with National /Local Building Codes.
- j) Water heaters, electrical panels, pipe chases, entrance doors to adjoining rooms, and etc. shall not be permitted in housekeeping space.

5.05 **TOILET AND BATH ACCESSORIES** - the general contractor will provide all public toilets accessories for new construction and major renovations. The Architect should locate accessories using ADA guidelines and specify the installation for the GC. The NCSU Project Mgr. will coordinate the use and specifications of accessories from the general contractor. All products below meet ADA guidelines

University Standard Items Purchased and Supplied by the Contractor

Toilet Tissue Dispensers:

Kimberly Clark/Scott IN-SIGHT® Series-I JRT® Jumbo
Roll Tissue Dispense, Product Model: #09507

Soap Dispensers

Airkem/ Huntington -Episoft foam soap dispenser Model
92021003 Vendor: UNISOURCE, INC.
1070 E Waterfield Drive,
Garner NC.
Office: 919-661-3943 See Items Below

Paper Towel Dispensers:

New Installations -Kimberly Clark/Scott Model #9990- Hands free Jumbo Paper Towel
Dispenser Surface Mount

Renovation Installations -Kimberly Clark/Scott Model #9715 - Jumbo Paper Towel Dispenser
Recessed (Retro-fit within the recessed combination paper towel and trash units)

Vendor: Martin Architectural
511 East Chatham Street
Cary, NC
Office: 469-9661 See Items Below

Waste Receptacle:

Waste Receptacle Recessed: Bobrick Model # B3644-Classic Series

Stainless Steel Toilet Tissue Dispenser

Multi roll Toilet Tissue Dispenser Bobrick # B2888 (For ADA Handicap Toilets Only)

Sanitary Dispenser:

Sanitary Napkin Dispenser: Bobrick Model B2800 or equal with 25 cents operation. Sanitary
Napkin Disposal Bobrick B-270 or approved equal surface. **Note:** The accessories specified
above will need to be a part of a proprietary alternate meeting
during the bid process.

5.06 **TOILET ROOM PARTITIONS** - Toilet room partitions and stall doors shall be provided
in a material or finish that is impervious to acid, stains and rust.

5.07 BUILDING ENTRANCE MATS - Entrance mats for primary entrance to buildings shall be recessed in floor and installed by the contractor.

5.08 EXTERIOR FROST – FREE WATER FAUCETS - Frost-free faucets should be installed at strategic locations around the perimeter of the building to facilitate window washing, no more than 100' apart.

Part 6: Design Criteria for Mail Rooms

6.01 Each new or renovated facility at NC State will have a Mail Center to allow mail delivery to, and distribution from, the department. Mailrooms should be considered in conjunction with the building program. Programs that incorporate multiple departments or University units may require larger mail facilities.

6.02 The designer should review the different requirements of each department and provide a Mail Center to meet the requirements and these minimum guidelines. Facilities Operations picks up and delivers mail to all campus facilities on a daily basis. Mail is driven to the Loading Dock and carried by handcart to the Mail Center within each facility. Mail is distributed into different boxes for each campus mailbox number. The Department's designated representative for their campus mailbox picks up mail from the box and delivers it to the individual occupant.

6.03 The designer's goal should be to provide a Mail Center that will allow efficient delivery and pickup of mail from campus facilities. The Mail Center should be located on the ground floor and close to the Loading Dock.

6.04 Access to the individual boxes should be provided in a secure room. This room should not be programmed for functions other than a Mail Center.

6.05 For planning purposes, one cubic foot of box space per 400 gross square feet of building space if the building is primarily for office use. This estimate may be modified once the exact facility layout, number of occupants and departments are known.

6.06 Typical mailrooms are of approximately 90 square feet (9' x 10') and incorporate sorting units, worktable, and mail drop slots. (See Detail XXX). Sorting units and worktable may be purchased dedicated units rather than custom-built cabinets. The sorting units should have adjustable shelves to accommodate varying user mail volumes.

6.07 Provide a minimum of two mail drop slots, one for Campus Mail and one for US Postal Service mail.

Part 7: Design Criteria for Exterior Service Courts, Waste Collection and Recycling

7.01 Outdoor Waste Collection/Recycling -Large waste and recycling areas and containers shall be confined to service courts. With building renovations for existing facilities it shall be the goal of the design to consolidate and locate these operations within existing courts as part of the renovation. Where service courts do not exist, create new service areas screened architecturally from public view. Renovations may present the opportunity to examine waste collection and recycling operations of the surrounding area and further consolidate these activities. Provide pedestrian-scale recycling containers at food court and other high-traffic pedestrian outdoor spaces.

Service court layout and collection areas should be coordinated with and approved by Facility Operations-Waste/Recycling group.

7.02 Documentation- Plans should indicate the location of recycling and trash bins/dumpster boxes and appropriate reinforcement for paved approaches and pad.

7.03 Service courts serve many functions. They provide an area for routine maintenance access to the building and a location for generators and other utility entrances, for mail and other deliveries, and for the collection of waste and recyclable materials.

7.04 Service courts shall be accessible to a front-loading, 40' long trash truck. This requires 16' height overhead clearance, 23' height dump clearance at the dumping site, level site at collection point, a 42' turning radius, and a 75' straight approach to the containers.

7.05 Where containers abut a building or other site feature, place protective bollard(s) between the container and the feature that needs protection. Ensure pedestrian access to the container opening. Provide paved paths from the custodial exit of the building to the containers that are adequate for roll trash carts. Owner will provide cardboard collection containers or approved contractor and painted green, with "CARDBOARD ONLY" lettered in white.

7.06 Dumpster pads and approaches should be of reinforced concrete. Dumpster pads should accommodate 8 cu yd containers. Trash containers shall be painted architectural bronze and provided by owner or by approved service contractor.

7.07 Provide pads and approaches for a minimum of two containers, one for cardboard and one for solid trash. Programming requirements for the facility may indicate additional containers or other waste handling requirements. At high-volume trash-generating sites, provide a compactor or 40 cu yd roll-off trash dumpster site. Food service areas should have a compactor or at least 2 dumpsters. Food service areas should also have space for a used oil/grease recycling dumpster and a food waste collection space.

7.08 Collection areas shall be accessible. Site grade manipulation and/or dock extensions may be required.

7.09 Loading docks should provide space for the collection of the five to ten, 45 and 95-gallon recycling carts. The carts may remain on the dock area as the building recycling area.

Part 8: Design Criteria for Mechanical and Electrical Spaces

8.01 Documentation - Paths of access to equipment should be shown on the drawings. This specifically applies to access to chiller tubes and the removal of coils in air handling units. Where two or more services are to occupy the same mechanical room, proper coordination is necessary. All drawings should show heating, plumbing, air conditioning, and electrical equipment when more than one service is located in the same space, chase, manhole, or mechanical room.

8.02 The general policy and intent of the university is that transformer vaults and mechanical equipment rooms should not be accessible to occupants of the building. It is therefore necessary that departmental equipment and controls be located so that the occupants of the building will not have to enter either transformer vaults or mechanical equipment rooms for routine operation of equipment. This includes fuses, circuit breakers, disconnect switches, valves, etc., that serve departmental equipment.

Conversely, access to equipment rooms should not be through other rooms serving departmental functions, but rather should be through corridors, lobbies, or other services spaces. Also, custodial closets may not be used to house mechanical equipment, nor may they serve as access to mechanical equipment rooms.

8.03 Suitable location and adequate size of equipment rooms are essential to satisfactory building operation. Equipment rooms containing major pieces of equipment such as chillers, large pumps, tanks, and fans should be located at grade, adjacent to loading docks, and with large doors through which the largest items may be removed and replaced.

8.04 For major facilities, mechanical-equipment room space in the range of 3% to 5% of gross building area is usually necessary. Equipment-room lighting should be generous and well distributed to preclude the need for extension cords and portable lights in carrying out routine and predictable maintenance. In addition, provide convenient receptacles near major equipment and at reasonable intervals along walls and chases.

8.05 Maintenance access to equipment is to be through doors or other approved permanent openings. Equipment should be located at grade whenever possible, and when this is not possible, access to it is to be provided via permanent stairs and platforms with approved OSHA railings. Multiple-story buildings shall provide walk-in access to vertical chases at each floor, and permanent lighting. Mechanical-room access must accommodate removal and replacement of all equipment. The plan should provide for all service operations such as removal and replacement of chillers, fans, coils, tube bundles, etc. Plans will be reviewed carefully to avoid "trapped" equipment, valves, and piping, which will not be accepted. The designer should allow space for expansion and additions to the equipment, in addition to maintenance access.