



# Design & Construction Manual

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# Section I. Introduction Design and Construction

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## Responsibilities, Duties and Other Services

AS/SBD uses this manual for code and non-code agencies for the purposes of planning and design. When adjustments in space needs become necessary, AS/SBD will be involved. Through its' personnel or use of consultants, AS/SBD will assist and guide agencies through space selection and the usage process.

Planning and design will include the following responsibilities and duties for all state-owned and commercially leased space, as follows: (i) to determine space needs of all Agencies and to establish space-allocation standards, (ii) to establish and define standards for all leased space so that needs may be summarized or projected in an efficient and consistent manner, (iii) to ensure efficient and effective use of resources, and (iv) to conduct annual audits of all State leased space for compliance of these space utilization standards.

Planning and design also includes other services, such as:

1. To coordinate comprehensive capital facilities planning, design and construction;
2. To assist AS/SBD and agency staff in specific design projects, as requested or directed to;
3. To act as a consultant for Tenant Improvements;
4. To acquire components, schedule delivery and set-up, complete construction and installation of systems furniture;
5. To coordinate power and communications installation to new space prior to the move date, staging equipment and furniture;
6. To maintain facility utilization records of all state owned, state occupied;
7. To address agency space needs through space analysis and design; (State occupied buildings)
8. To provide information on space usage by Agencies for the annual report to the Appropriations Committee, as requested.

## OVERVIEW

### 1. Space Types

These standards focus primarily on office space. However, other types of space such as laboratories, classrooms, storage, and other non-office spaces are treated as special cases and may need additional information to allocate proper space allowance. The term "office space" refers to the total work environment, as opposed to an individual's work area, which is termed "work space."

#### Private Spaces

These areas have four-sided enclosures, with or without doors. These are full height enclosures from floor to ceiling using dry wall, demountable or removable partitions. The spaces provide visual privacy and security of materials. Application include executive offices, top management offices or professionals offices that demand frequent visual privacy, conversational privacy, confidential storage of materials or any combination of these.

#### Semi-Private Spaces

Areas with two to three sided enclosures. The enclosures are below ceiling height using panels from system furniture. Such enclosures provide seated or standing privacy and the higher panels are capable of providing storage above work surfaces. Applications include professional, management, supervisory or non-supervisory staff. The stations also provide high degree of flexibility and reconfiguration within the work spaces by changing

components within the work space.

### **Open Spaces**

Open spaces have absolutely no enclosures around the station. The only space dividers are open spaces, plants, or furniture. Applications include call centers, receptionists.

## **2. Usage of Space**

### **Personal Spaces**

The personal spaces are individual work stations that include furniture and equipment that allow the users to perform their task efficiently. Agencies organize all personal spaces into standard work stations types according to the individuals' hierarchy, job categories, and functional needs.

### **Group Spaces**

Group spaces are shared facilities within the Department. The shared facilities can be shared by work groups, units, or by an entire Department.

### **Support Spaces**

These are furniture, equipment or spaces needed by the work groups within a department. These shared facilities are located in close proximity to the individuals that need them on a regular basis. Therefore, these shared areas are supporting spaces for individuals' work and are active spaces. The spaces are mostly semi-private or open spaces that can reconfigure easily within the unit. Examples are files, shelving, storage, equipment, work tables, counters, and miscellaneous items, such as carts, etc.

### **Special Use Spaces**

The special use spaces are shared areas and equipment within a unit and they are usually treated and planned as organized units due to their function or special treatments. These spaces are shared by all the individuals within the department. The spaces are semi-active and they are further away from the individuals. Since they demand special treatments, grouping, they are less flexible and many of them are permanent areas. Examples are reception areas, conference rooms, file rooms, storage rooms, library, mail rooms and distribution areas, etc.

### **Common Use Spaces**

Common shared spaces are spaces located outside of the department or unit. The facilities are shared by all individuals within the company. Since they are mostly inactive or get occasional uses, these spaces are furthest away from the individuals. They also need special grouping or treatments and are mostly permanent private spaces. Examples are archives, exhibits or museums, receptions, auditoriums, conference rooms, central file rooms for inactive files, central storage rooms, cafeterias, central copying and other services, first aid, training center, and locker rooms, etc.

### 3. Design & Construction Authority

AS/SBD is the landlord for those Agencies under its [statutory authority \(81-1108.15\(2\)\(h\) and \(4\)\(d\)](#), “code agencies,” and who occupy leased space, both commercial and State-owned.

AS/SBD is responsible for a wide range of services, including designing security, repairs, maintenance, custodial services and utilities, and in directing the planning necessary to satisfy the long- and short-term space needs of Agencies. This includes overseeing all phases of construction and renovation, approving all space changes to existing space, determining space assignments in State-owned and commercial-leased space, as well as negotiating all leasing arrangements. In this way, AS/SBD manages the State's inventory of space with an eye towards the future comprehensive plans.

Based on a recommendation of AS/SBD Administrator, the Director of Administrative Services (AS) approves or denies requests for new space. This decision may be affected by variables other than statutory authorities. These variables could include administrative planning and approvals based on need and expenditures prior to application for legislative capital appropriations, recognizing that there is a hierarchy of approvals needed based on the dollar amount involved, ability to obtain project approvals from both state and local statutory authorities, and ability to comply with agency and state comprehensive plans. These considerations, which apply more readily to large scale projects, may affect a change in the desired scope or location of a request for space.

### 4. Goals

1. To evaluate, plan and implement so that long- and short-term space needs of Agencies are met;
2. To provide a healthy environment for employee productivity and efficiency and to keep Agencies consolidated, as much as possible;
3. To provide space appropriate in quality, type and location based on the end user's needs;
4. To encourage the efficient and economical use of space by Agencies; each agency will cooperate in developing creative strategies to minimize personnel and equipment needs, using space-saving modular furniture and partitions;
5. To assure compliance with Fire/Life/Safety Codes, ADA Standards for Accessible Design and all other applicable codes.
6. To provide all of the above at the lowest reasonable cost to the State.

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AS/SBD hopes you find the following information and materials helpful in the planning and design process.

For further assistance in planning and design State owned or commercial space,  
Contact AS/SBD Design and Construction Section.



## Section II. Definitions and Terms

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## Boundary Wall

The limit of the leased space that determines the separation of an area, i.e. wall, cubicle, furniture.

## Circulation add definition

## Common Areas

All areas and facilities outside the Demised Premises and within the exterior boundary line of the building and grounds and interior utility raceways within the Demised Premises that are provided and designated by the Lessor from time to time for the general non-exclusive use of Lessor, Lessee/Tenant Agency and other tenants of the building and their respective employees, suppliers, shippers, tenants, contractors and invitees. Common areas may include mechanical/electrical areas, building service areas, public restrooms, public break areas, public corridors, vestibules, elevator lobbies, elevator shafts, escalators, stairways and stair towers, and receiving areas such as docks, etc.

## Gross Square Feet (GSF)

If the requesting Agency is to be housed in **new construction**, the designer will determine the overall size of the building, including exterior walls. This is generally only done in the early stage of planning, before building design has begun. The GSF multiplier provided may prove useful for this purpose.

*GSF represents the total square footage of the building, including exterior wall thickness (the footprint). GSF is the correct planning figure only in cases where a new building or addition is being considered.*

GSF consists of six components:

1. Workspace - employee office and/or primary work area;
2. Ancillary Space - support spaces need for employee functioning in addition to workspace, e.g., conference rooms, reception areas, storage rooms, file rooms, copier space, special equipment, etc.;
3. Minor Circulation - circulation within an Agency's office area;
4. Major Circulation - main corridors, lobbies, etc.;
5. Core - elevators, stairs, restrooms, mechanical spaces, etc.;
6. Exterior Walls - thickness of exterior walls.

## Net Rentable Square Feet (NRSF)

It is not uncommon to include service spaces, such as restrooms or stairs, in planning and design figures. Certain limited leasing arrangements include the service spaces in the basis for rent. Under these circumstances, determining the NRSF needed will include all the space enclosed by the exterior walls even if this is not a sole tenant space. *NRSF represents total square footage guidelines, excluding exterior walls. This number includes common areas.*

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NRSF consists of five components:

1. Workspace - employee office and/or primary work area;
2. Ancillary Space - support spaces need for employee functioning in addition to workspace, e.g., conference rooms, storage rooms, reception areas, file rooms, copier space, special equipment, etc.;
3. Minor Circulation - circulation within an Agency's office area;
4. Major Circulation - main corridors, lobbies, etc.; and
5. Core - elevators, stairs, restrooms, mechanical spaces, etc.

### **Rentable Area – Commercial Space**

Rentable area is determined by space analysis and negotiation between the Lessor and Lessee at the time of the lease.

### **Rentable Area – State-Owned Space**

The rentable area of the space will be determined in accordance with the Standard Method for Measuring "Floor Area in Office Buildings, Approved 2017" (Building Owners and Managers Association Standards, hereinafter "BOMA Standards") by the American National Standards Institute, Inc. (ANSI/BOMA Z65.1-2017).

The following standards are the method for determining the actual rentable area of a building available to an occupant for their specific use, more commonly referred to as the Demised Premises, not including any Building Common Areas, entryways, lobbies and restrooms:

1. As a sole tenant, the rentable area will include the interior floor space measured from exterior wall to exterior wall.
2. In a multiple tenant space, the rentable area will include the space from exterior wall to one-half the wall thickness of the interior wall dividing the agencies, or when an exterior wall is not part of the rentable area, the rentable space will be determined by the distance from one-half the thickness of the boundary walls, including such areas as building support column footprints.

### **Space – Total Space, Workspace, and Office Space**

The term "*total space*" refers to the total work environment, as opposed to "*workspace*" which is an employee's individual work area. The analysis of office space, however, demands that more precise definitions be introduced to describe the various levels of space assignment, whether it is determining workspace guidelines only, or, at the other extreme, assessing total building needs. The term "*Space*" may refer to either *total space* or *workspace*.



## **Section III. Guidelines and Process**

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## **Uniform Method of Analysis**

The purpose of this Section is the establishment of a uniform method of analyzing space and its components. By developing guidelines for each component, i.e. workspace and ancillary, overall space needs can be tabulated.

The Standards/Guidelines contained herein are a planning tool to be used by AS/SBD, consultants and agency managers. They represent average guidelines.

Tenant Agency will have the following design options for the creation and submittal of forms and drawings: (i) to hire AS/SBD Designers for consultation of space use and/or create drawings, (ii) to hire an outside A&E consultant at the Tenant Agency's cost, or (iii) use Tenant Agency staff. For Design review and approval, CAD drawings are necessary;

If Tenant Agency is located in a leased facility and wishes to use the AS/SBD Design and Construction services, those services will be billed.

## **Process – Office Move Request**

An office move request begins when the requesting agency, submits a Move Request form to AS/SBD. [Move Request form](#) will be completed for all space requests, whether for a single workspace or an entire Agency and forward the form to State Building Division, Attn: Design & Construction Section – E-Mail [ASSBD.Designandconstruction@nebraska.gov](mailto:ASSBD.Designandconstruction@nebraska.gov) or mail to, PO Box 98940, Lincoln, NE 68509-8940 or deliver to 1526 “K” Street, Suite 200, Lincoln, NE 68509.

As part of any budget request or budget recommendation involving new agency positions, the requesting agency will obtain written confirmation from AS/SBD to verify the availability and/or cost of the space necessary to house the position and/or equipment.

Upon receipt of a Move Request, the evaluation process begins. In general, the request is reviewed relative to four major factors:

1. Type of Space
2. Location
3. Quality of Space
4. Total square foot of Space

Of course, any special needs are given due consideration. The four criteria discussed in this Section represent those issues relative to all requests.

## **Process - Space Changes**

Any and all changes to existing state-owned and commercially leased space will be approved in writing by AS/SBD Designers prior to the change. No contractor, vendor, or State employee will move any fixture, furniture, cubicle, partition, or wall or make any change in the space without AS/SBD review, approval of internal and external CAD drawings and plans, and written documentation from AS/SBD designers authorizing such change. If an Agency chooses to use an outside vendor to facilitate the change in design, the dimensional

CAD drawing(s)/plan(s) will be submitted to AS/SBD Design and Construction for review, approval, and written authorization, prior to any such change.

## **Evaluation Criteria**

Upon receipt of the Move Request form, AS/SBD will review the document and meet with the requesting agency contact person to inspect the existing facility and discuss the request in more detail. In assessing the options, AS/SBD will first try to accommodate the additional space within the existing space. If this is not possible, the next option is the design or relocation.

If "design or relocation" solutions appear to be unsatisfactory, AS/SBD may move the requestor or requesting agency to other State-owned space, if available or to a new space.

This decision is based on many factors, not least of which are the Guidelines, as shown below.

In choosing between these options, two concerns help guide the decision-making process: **the preference for State-owned space over commercial leased space and the desire to keep Agencies together.**

In general, the assignment of State-owned space is the primary objective, if unavailable agency may explore other options. Commercial leasing is not without its merits, however, which include availability, flexibility and relatively low short-term costs. For these reasons, commercial leasing is an integral part of these Guidelines.

AS/SBD will consider each request and its special needs individually and in terms of the entire State's office needs in a geographic area. It will also balance the immediate needs of individual Agencies with the long-term plans and goals of State government.

## **Quality of Space**

AS/SBD is responsible for the evaluation of the Agency's space needs, using the Guidelines developed in this document.

The amount of space necessary is an integral component of the evaluation process. The decision to assign State-owned space, leased space, or merely design existing space is greatly affected by the amount of space requested relative to the amount of space available, whether State-owned or commercially leased. Similarly, the ability to keep an Agency together becomes difficult as it continues to grow and agency consolidation.

## **Modular Furniture**

The efficient utilization of space translates both into decreasing costs and right size agency space. AS/SBD encourages the use of modular furniture systems as a means by which such goals can be achieved; through the design of modular workstations.

When an office reflects a state-of-the-art atmosphere in workspace design, people work better, smarter and faster. There are many factors to consider: lighting, heat and cooling systems, noise level, privacy, ease of communication and the furniture to be used. Also, flexibility & adaptability to individual need.

Modular systems, as compared with conventional desks and tables, take up less space while offering ample storage and work surfaces. Suspended and freestanding components are designed to take advantage of vertical

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space. They also provide for ease of movement within the workstations by eliminating typical obstruction in conventional furniture and adjust to the individual needs.

Items normally stored on the desk can be efficiently placed on a shelf that hangs over the desk surface, allowing desktop depth to be narrower. This further compresses the necessary floor space while actually sustaining or increasing workspace availability.

Interchangeability, flexibility, standardization and the reuse of modular systems as compared to the traditional fixed wall layout play a large part in the recommendations by AS/SBD to consider a modular systems layout.

### **Conventional Furniture**

Conventional or non-modular freestanding furniture may be used or re-used as space and budgets permit. Conventional furniture will be most appropriate in floor-to-ceiling offices. AS/SBD will assist agencies in the analysis and function of all furniture types.

### **Communications**

Office of Chief Information Officer (OCIO) will provide all voice/data line installations. Tenant Agencies will contact OCIO to ensure the timely coordination of all installations in the new space. Tenant Agencies will be responsible for paying for their own voice/data systems.

### **Moving Process and Costs**

AS/SBD will coordinate the move with the Tenant Agency. The requesting Tenant Agency will pay for all moving related costs. AS/SBD will pay for moving costs in a mandatory move.

### **Request for Space Allocations and Move – Instructions and Form**

Submit the Move Request form to AS/SBD, Design & Construction.

Determine the specific amount of work and ancillary space by completing the [Space Guideline Worksheet](#).

*See RFP for geographical moves or check with leasing.*

### **Employee Positions and Workspace Types**

Guidelines have been developed for each component described in the previous Section (Workspace, Ancillary Space, etc.) from various sources.

*Please note that all square footage (SF) in this Section includes the wall thickness of interior partitions.*

### **Office Space Standards Overview**

In office design, flexibility in planning is essential in order to accommodate changes of occupancy over time in a cost effective manner. For this reason, and due to the potential construction cost savings from the application of a repetitive geometry, it is always desirable to use a modular planning approach.

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Most buildings these days work on a building module of 5' or 4'. The size of the building module in an office building is always defined by the designer. The factors that affect such module are based on varying factors such as site conditions, structural systems, spacing of window mullions, columns, ceiling layout, etc. Designer for the project will need to respond to the same modularity in the design of the interior space. If the project consists mostly of enclosed spaces, the exterior wall and window design will become an important determinant of the room modules since the location of the interior partitions are governed by the mullion modularity along the perimeter walls. If the space is relatively open, then the ceiling module, lighting, telephone and electrical locations will be more of a determinant factor. Space standards are repetitive spaces created using the similar building modularity in order to gain accessibility to building systems.

To achieve modularity, it is important to simplify the number of different spaces or standards used within an office. In addition to the personnel standards, the common group areas such as supporting area, special use areas or the common use areas can also be easily standardized.

### **Space Standard Features**

A space standard is a study of the space size, furniture needs and area arrangement for an area of activity that is responsive to the need of the Department. The activity area may be a personnel space or a shared facility such as files, storages, conference room, reception area or etc. A typical space study should include:

- An illustration of all furniture needs
- An approximate arrangement of all furniture used in the space
- An approximate space size as defined by an area boundary
- Furniture clearances and secondary internal circulation for use of the space. Each open and semi-private space includes part of a secondary isle which accounts for clearances and entry into the space. This partial isle will form into a full isle when the spaces are grouped into a work station cluster. This is not true with private spaces which are only accessible through primary isles.

The total square footage is the combination of the necessary areas plus 35% circulation.

## **Guidelines for Employee HR Position Classifications and Workspace Types:**

Workspace Type is defined as the complete range of State employee positions organized into eight categories or types based on the type of work and level of responsibility for the position.

- Officials & Administrators
- Professionals
- Technicians
- Protective Service Workers
- Para-Professionals
- Administrative Support
- Skilled Craft Workers
- Service-Maintenance
- Overtime-FLSA

## **Ancillary Space Type Guidelines - Within an Agency:**

There are guidelines needed to accommodate ancillary spaces that should be considered in planning an office. The determination of the need should be established by the Agency representative.

The following is a list of ancillary spaces with a general size guideline for each space. The final square footage allocation will be evaluated according to the actual need, the number of employees using the space and the function anticipated.

**Conference Room/Training Area**      15 to 20 sf per person

**Reception Area**                              10 sf per person (Average Visitor Load)

### **Files**

Standard	7 sf per file - 15"W x 18"D & 15"W x 29"D
Legal	8 sf per file - 18"W x 29"D
Lateral	14 sf per file - 36"W x 18"D & 42"W x 18"D
Flat	18 sf per file - 40"W x 30"D & 46"W x 30"D

Note: One standard 4-drawer upright file provides 1,000 linear inches of filing space.

Note: When planning filing areas, special attention should be given to the floor loading capabilities of the spaces to be utilized.

### **Copier/Reproduction**

Small Copier - 30 sf and storage cupboard, side table and shelf  
Large Copier - 45 sf and storage cupboard, side table and shelf

Note: For other equipment and storage cabinet, measure plan in accordance with Special Equipment standards listed below.

**Office Supplies**                              12 sf minimum - depends upon demand

**Coats**    .75 sf/Employee

**Break Area**                                      40 - 60 sf total or 10 sf/person using space.

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Note: Locate off an internal corridor if possible and near a conference room.  
Equipment: Small refrigerator, microwave, small sink, toaster, storage cupboards, soap dispenser, coffee maker. For space analysis and RFP use 15'x15'=225 sq. ft.

**Recycling Area** As needed.

**Workroom/Library/Machines** Within an Agency's space plan, consideration should be given to a space that can be designated "Workroom." The size can vary according to demand, usage and program needs but a minimum of 100 sf may be allowed. Some of the special spaces mentioned in this Section can be collectively grouped in such a room, together with other essential functions by each Agency e.g. mail room, general storage and supplies, copy machines, shipping/receiving, coats, etc.

**Special Equipment and Spaces** Special equipment, furniture, or space not included in the list above will be measured to determine the actual size of the item. The space necessary to use and service equipment, the space will include three feet multiplied by the length of the side of the item with the operating doors open. This may be reduced if the "working space" is common to two or more items.

**Circulation/Aisle Space** All primary and secondary circulation paths within Agency areas need to conform to ADA Guidelines and Fire/Life/Safety Codes.

**Special Space Type Guidelines - Within a Building (not part of an Agency):**

**Break Room - Food Service** 10 sf/person using space plus kitchenette, vending machines and/or food service.

**Recycling Room** 240 sf minimum depending upon facility size and number of agencies using the facility; located adjacent to loading dock and wash-down area, if possible.

**Vending Machines** Space as needed for equipment; allow 18 sf per machine.

**Telephone and Data Room** Locate one per floor, stacked vertically between floors. Size as needed for equipment, include space for work surface, shelf and plywood backer boards on walls. A dedicated computer room may become necessary, depending on equipment needs.

**Electric Panel Space** 64 sf per floor minimum, sized to actual equipment necessary, include enough space for card access equipment, if utilized for building entry door lock system.

**Janitorial Closets** 1 per floor - 5' x 10' minimum.

**Mother's Room** 10'x10'

**Recommended Tenant Space Improvement Guidelines:**

**Ceiling** White, 24" x 48" x 5/8" lay-in, Fireguard or equivalent

**HVAC System** Variable volume HVAC system with duct and diffuser distribution and zoned thermostatic controls as designed by the building's mechanical engineer. This system is designed for year-round operation.

Normal business hours are projected to be 7:00 a.m. to 6:00 p.m., Monday through Friday (State holidays excluded). The building HVAC capabilities may be available at additional cost to the Agency for computer installations and for overtime use. Extra variable air volume boxes will be added for heat producing equipment or individual office temperature control. Current ASHRAE standard including 62-1989 are to be met.

**Sprinkler System** All of the leased property is to be protected by fire sprinklers in accordance with Fire/Life/Safety Codes or State Fire Marshal guidelines.

**Exterior Windows** Building standard 1" blinds to be installed at all exterior windows. Standard design lighting to IES (Illuminating Engineering Society) and to IE/CC (International/Energy Conservation Code).

**Lighting** Building standard 2'x4'. At least one fixture for each 110 square feet of useable floor area will be provided. T-8 fluorescent lights with electronic ballasts or LED will provide a range of 50 to 65 foot candles at the work surface depending on specific needs. Contrast ratios will not exceed 3:1.

In areas with a high concentration of computer terminals, general lighting may necessitate only 25 foot candles with supplemental task lighting.

In cases where major renovation is planned, it is necessary to provide as to the light source specified with electronic ballasts be used. LED exit signs to be specified. Fully enclosed offices, conference rooms, etc. may also include individual occupancy sensors to reduce lighting levels when not occupied.

**Tenant Area Perimeter Walls** Tenant Agency side of corridor wall, party walls and the exterior wall below the window sill will be drywall-painted and include a vinyl base.

**Tenant Partitions** Lessor to install ten (10) linear feet of building standard partitioning per 100 square feet of rentable area or as necessary for individual lease specifications. Walls will be painted with a prime coat and two finish coats (eggshell finish). Tenant Agency to select paint from Lessor standard colors.

- A. Building Standard: 3 1/2" steel stud system with 5/8" drywall (fire-rated if specified by Code) each side +/- 9' 0" high with two finish coats latex paint each side; "J" trim at ceiling; 4" vinyl base each side; and, insulate all walls.
- B. The above allowances to include one half of the dividing partition between the tenant area and the adjacent tenant space. The party wall and the corridor wall are to be insulated.

**Electrical** Two duplex outlets per 100 usable square feet, normal circuit; and, one single pole switch per 220 usable square feet in open office areas. Closed office areas will conform to the National Electrical Code.

**Carpeting** All areas will have carpet with a minimum of 28 oz. weight, cut and loop combination, with unitary or action backing, and constructed of a nylon, with at least a 10-year warranty or equivalent. Tenant Agency will select from Building Standard colors. All carpet will meet NFPA specifications for commercial applications.