MIL-HDBK-1037/7
29 FEBRUARY 1988

MILITARY HANDBOOK

OFFICERS, NON-COMMISSIONED OFFICERS DINING FACILITIES:

OPEN ENLISTED DINING FACILITIES

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ABSTRACT

This handbook provides basic design guidance that has been developed from extensive re-evaluation of facilities. It is intended for use by experienced Navy and Marine Corps personnel involved in the project development process, and experienced planning and design consultants.

This handbook also provides the basic criteria to evaluate, plan, program and design Navy and Marine Corps mess facilities including those covered by facility category codes 740-60, 740-63, 740-64, 740-66, 740-69 and 740-70.

Guidance is also provided for the development of facilities appropriate to each individual base and its local program operations and requirements. This handbook presents functional, technical and aesthetic criteria for the design of the overall facility and its component areas and systems. Five schematic layout designs for messes of various types and sizes are included to illustrate the programming and design criteria specified in the text.

FOREWORD

This handbook has been developed from an evaluation of facilities in the shore establishment, from surveys of the availability of new materials and construction methods, and from selection of the best design practices of the Naval Facilities Engineering Command (NAVFACENGCOM), other Government agencies, and the private sector. This handbook was prepared using, to the maximum extent feasible, national professional society, association, and institute standards. Deviations from this criteria, in the planning, engineering, design, and construction of Naval shore facilities, cannot be made without prior approval of NAVFACENGCOM HQ Code 04.

Design cannot remain static any more than can the functions it serves or the technology it uses. Accordingly, recommendations for improvement are encouraged and should be furnished to Commanding Officer, Naval Facilities Engineering Command, Chesapeake Division, Code 406, Washington Navy Yard, Washington, D.C. 20374; telephone (415) 433-3314.

THIS HANDBOOK SHALL NOT BE USED AS A REFERENCE DOCUMENT FOR PROCUREMENT OF FACILITIES CONSTRUCTION. IT IS TO BE USED IN THE PURCHASE OF FACILITIES ENGINEERING STUDIES AND DESIGN (FINAL PLANS, SPECIFICATIONS, AND COST ESTIMATES). DO NOT REFERENCE IT IN MILITARY OR FEDERAL SPECIFICATIONS OR OTHER PROCUREMENT DOCUMENTS.

COMMUNITY FACILITIES CRITERIA MANUALS

Criteria Manual	Title	PA
MIL-HDBK-1037/1	Swimming Pools (PROPOSED)	CHESDIV
MIL-HDBK-1037/2	Child Care Centers (PROPOSED)	HDQTRS
MIL-HDBK-1037/3	Outdoor Sport and Recreational Facilities	CHESDIV
MIL-HDBK-1037/4	Brigs and Detention Facilities (PROPOSED)	CHESDIV
DM-37.5	Family Service Centers	CHESDIV
DM-37.06	Chapels and Religious Educational Facilities	CHESDIV
MIL-HDBK-1037/7	Officers, Non-Commissioned Officers Facilities; Open Enlisted Dining Facilities	CHESDIV

NOTE: Design manuals, when revised, will be converted to military handbooks.

This handbook is issued to provide immediate guidance to the user. However, it may or may not conform to format requirements of MIL-HDBK-1006/3 and will be corrected on the next update.

OFFICERS, NON-COMMISSIONED OFFICERS DINING FACILITIES: OPEN ENLISTED DINING FACILITIES

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Section 1: INTRODUCTION

1.1 Scope. This handbook contains guidance and criteria applicable to the design of new mess facilities as well as to the improvement of existing messes, or the modification of other facilities converted to messes. It is intended for use by base civil engineers, mess managers and other involved personnel, major command and headquarters review personnel, design architects and engineers and other experienced design professionals. This handbook avoids repetition of generic planning and design criteria which represent standard professional practice.

The criteria presented in this handbook are applicable to both Navy and Marine Corps mess facilities and cover single rank and consolidated mess types. The various mess types are defined in, para. 2.1.2.

This handbook addresses the planning and programming of mess operations on an individual base and the development of a locally appropriate facility concept, site design, overall building design and space requirements. This handbook, NRCS, when used in conjunction with the Project Smart Compass package (a Navy-wide instrument for surveying and evaluating recreational services and facilities), and other relevant NAVFAC and DOD documents provides pertinent information and direction needed at each stage of the project development process.

1.2 Organization. This handbook is organized to follow the sequence of events in a typical design process. Section 2 provides guidance for evaluating, planning and programming a mess facility and developing an operational concept that is a unique response to individual base conditions, requirements and needs. To facilitate a flexible response to varying user needs, the typical mess facility is divided into its major generic functional parts termed mess component areas, and the process of assembling alternative program packages from these components is explained.

Section 3 describes the overall design considerations, site design issues, architectural design objectives and criteria, and building systems design. Section 4 provides detailed information pertaining to the various mess component areas. Included in this section are use and performance criteria for each area, space relationships and standards, critical dimensions, architectural features, technical requirements and guidance for selecting finishes, equipment and furnishings. Section 5 presents five illustrative programs and schematic layout designs which embody the planning and design criteria contained in this handbook.

Section 2: PLANNING AND PROGRAMMING

2.1 Mess Program

2.1.1 Program Description. Navy messes promote and maintain the well-being, morale and efficiency of Navy officer and enlisted personnel and their dependents by providing dining, social, and recreational opportunities. These social and recreational benefits are critical for Navy members and their dependents.

Messes provide the following:

a) Quality food service/entertainment/recreational and social programs to support the physical and emotional well-being of Navy personnel and their families.

b) A means where single personnel and those geographically separated from their families can relax and socialize with their peers.

c) A relief from the day to day routines of shipboard, barracks or BOQ life.

d) Officers' messes and officers' portions of consolidated messes provide essential food service to officers and other authorized personnel.

2.1.2 Mess Categories. The categories of mess facilities addressed by this handbook include:

a) commissioned officers' messes,

b) chief petty officers' messes,

c) petty officers' messes,

d) enlisted messes, and

e) consolidated messes which serve both officers and enlisted personnel; however, separate areas for each rank category within the facility are normally provided. Configuration may vary when the population served is too small to sustain separate areas. Chief petty officers' and petty officers' messes may be provided as separate areas within the enlisted mess when the population served is too small to sustain separate messes.

The operation of each mess is determined by overall command requirements. mess programs and levels of service provided depend on the numbers, ages, and interests of military, dependent and civilian patrons and local command needs. Hours of operation are determined by program services and resources. Levels of use may vary by time of day, day of the week, and season of the year. Refer to para. 2.1.3, for a description of the range of services and activities provided.

For programming and design purposes, this handbook makes a distinction between the three broad types of messes (see Plate 1). A facility that accommodates personnel of any one rank category is called a single rank mess. A single facility serving multiple rank categories, but with separate patron use areas for each rank category, is termed a collocated consolidated mess. A single facility where personnel of different rank categories share the patron use areas is labelled a simple consolidated mess. Options with different rank categories sharing some, but not all patron use areas may also be considered. Collocation or consolidation of mess facilities is an operational option at the discretion of the local command.

2.1.3 Mess Functions. The functions described below shall be accommodated in mess facilities:

a) Dining - food and beverage service with operations potentially including cafeteria, buffet, full-service fast food, takeout service, and essential food service for officers.

b) Multipurpose - diverse activities including parties, banquets, dinner, dances, meetings, performances, bingo and card games, hobby and other clubs, dining overflow, official ceremonies or other tradition-bearing functions.

c) Lounge - formal and casual bar activities including full alcoholic and nonalcoholic beverage service, limited food service, socializing, entertainment, games, and waiting for dining room seating.

d) Patron Support - drop-off, entrance, reception and circulation for patrons; coat storage and public toilets.

e) Administration - staff activities, including facility supervision and operations management, banquet and catering management, and cashier operations.

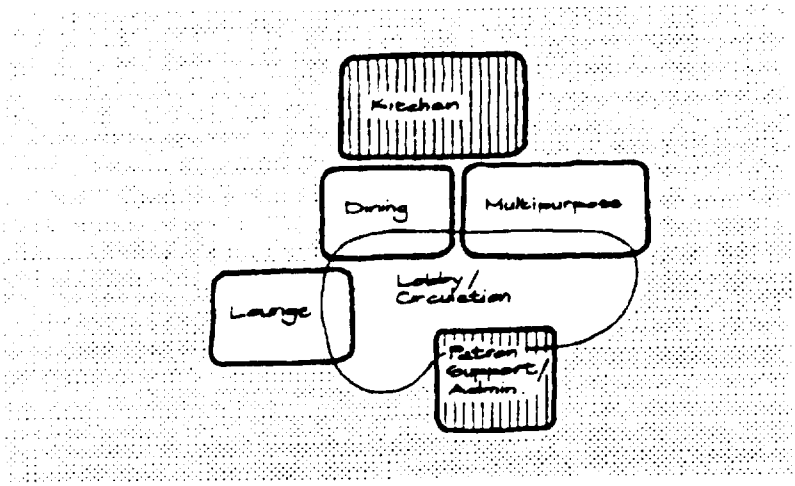
f) Kitchen - support activities for food service operations in dining, multipurpose and lounge areas. This involves food preparation, service, warewashing and potwashing, receipt and storage of supplies, waste removal, and kitchen supervision.

g) Staff Support - employee dining, lockers and toilets; maintenance and mechanical systems; equipment and supply storage.

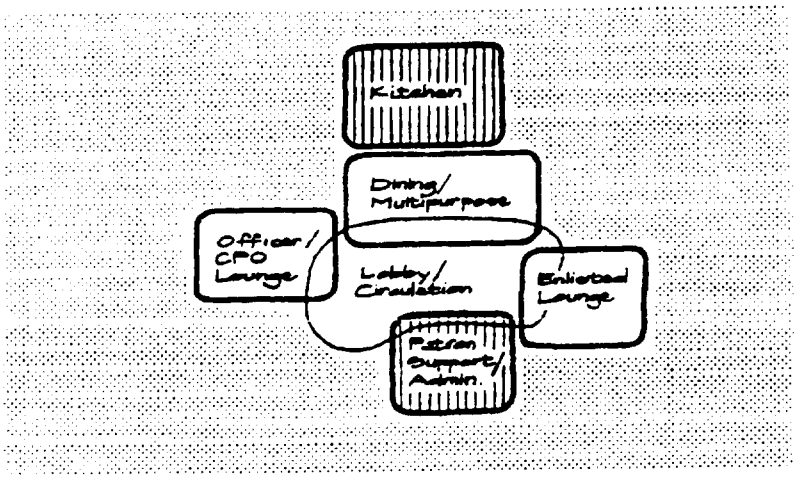
h) Local Options - additional functions which may include gamerooms, slot machine rooms, and other specialized recreational activity areas.

2.2 Planning and Programming Process. Planning, evaluation and programming of mess facilities should include the following policy considerations defined in paras. 2.2.1 through 2.2.4.

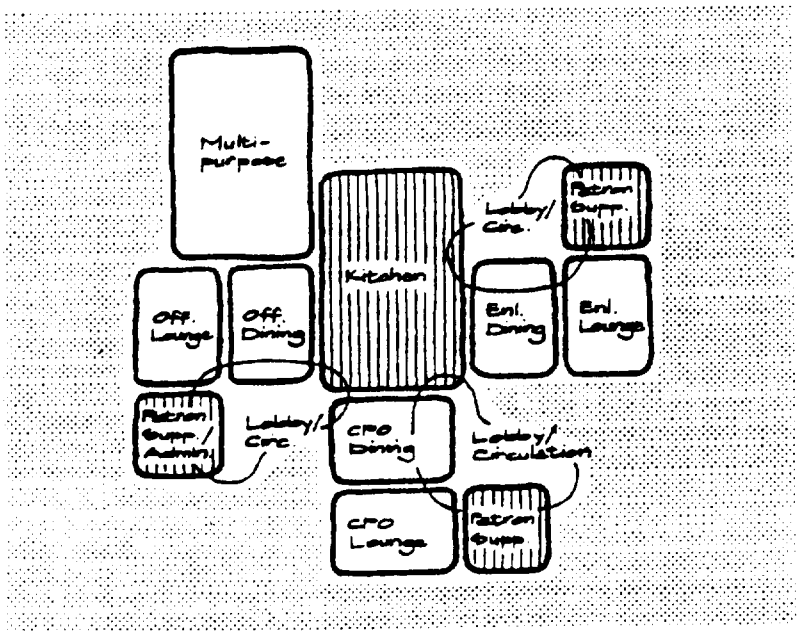
2.2.1 Market Research. The first step in the project initiation phase should be a thorough assessment of base mess operations in terms of resources, programs, costs and needs. Tools for carrying out this assessment are provided in the NRCS Project Smart Compass package, which include Resource



Single - Rank Mess



Simple Consolidated Mess



Collocated Consolidated Mess

Title	Date	Category Code	Plate
ALTERNATIVE MESS TYPES	March 1987	740 Series	1

Assessment Guide, Program Assessment Guide, Cost Assessment Guide, and Leisure Needs Survey.

a) Resource Assessment is an inventory of similar facilities both on and off bases. Off base facilities are those within 10 miles (16.09 km) or 30 minutes driving time.

b) Program Assessment evaluates current mess operations against a set of appropriate standards.

c) Cost Assessment assesses the costs and benefits of specific programs.

d) Leisure Needs Assessment includes surveys to determine leisure needs, interests and preferences among base personnel, and patron use of, and satisfaction with, current programs and facilities.

2.2.2 Strategic Market Planning. Using the Marketing Plan Guidebook and the data gathered with the aid of the Project Smart Compass package, a comprehensive long-term (five-year) masterplan for base mess facilities should be developed as part of the Recreational Services Five-Year Master Program Plan drawn up for each Naval installation. This plan shall be used to project and quantify mess program initiatives, to provide a meaningful and equitable program ranking system, and to validate projects, taking into account the adequacy of existing mess programs and facilities, and the program potential. Within the context of this masterplan, target markets should be identified and appropriate marketing strategies formulated with the aid of National Restaurant Association (NRA) publication, Conducting a Feasibility Study for a New Restaurant.

2.2.3 Mess Operational Concept. Given a target market and sound marketing strategy, the next step in the process should be to define and develop an operational concept for the desired mess facility. The basic mess concept should describe:

a) the capacity of the facility (number of patron seats to be accommodated in major activity areas); types of menu (a la carte, limited menu, fast food, etc.), and

b) service style (waitress service, buffet, self-service cafeteria, takeout service, catering service, etc.); bar operations; entertainment (dancing, games, performances, etc.); desirable building image, architectural character and interior atmosphere and decor; days and hours of operation; and the price structure.

All menu items and the appropriate methods of food preparation shall be specified. Continuous evaluation and feedback shall be integral to the concept development process. The menu, style of service, entertainment opportunities and atmosphere shall all be very carefully assessed and designed for the mutual fit of all components, and suitability for prospective patrons.

2.2.4 Financial Statement. When the mess concept has been developed, its financial feasibility must be tested by constructing a prescribed statement of

anticipated revenues and expenses which is prepared in advance. Food and beverage sales should be calculated on the basis of hours of operation, average check per person, seat turnover and financial period. Controllable expenses (including payroll, direct operating expenses, music and entertainment, advertising, utilities, administration, and repairs and maintenance) and any fixed costs should be estimated. The complete financial statement should then be analyzed for operational viability. Following the development of a satisfactory operational concept, a project implementation plan should be drawn up.

2.3 Space Program Development. The official project initiation process begins with the preparation and submittal of DD Form 1391, Military Construction Project Data. Information required for completing DD Form 1391 includes consideration of the functions to be accommodated, the space program, overall building size, site evaluation, and any special factors to be included in the cost estimates. Site selection is a function of the base master-planning process, prior to DD Form 1391 preparation for an individual project. Development of a space program for a mess facility should include the considerations described in paras. 2.3.1 through 2.3.4.

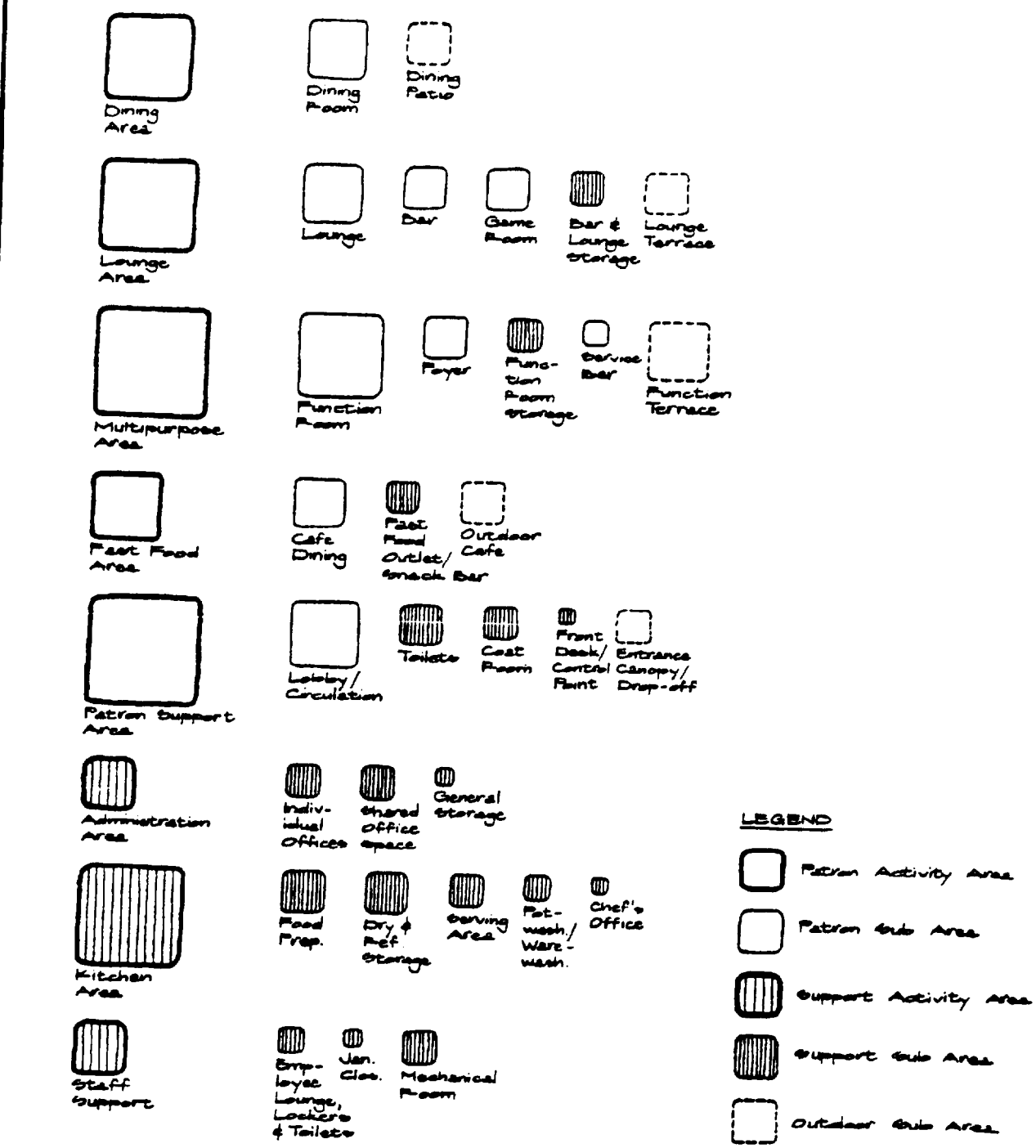
2.3.1 Local Variability. Standard space programs for mess facilities are not feasible, nor advisable. Programmatic requirements for each individual mess facility should be drawn up on the basis of a careful assessment of local needs, resources and market potential as described above. Base personnel engaged in mess operations must be intimately involved in the project development process to ensure a product appropriate to local conditions.

2.3.2 Mess Component Areas. To facilitate flexible and user responsive planning, of mess facilities, the concept of a system of Mess Component Areas (MCA) has been developed for this handbook. The MCA system subdivides the mess facility into its functional activity areas, each with its component subareas and elements. Responsible base personnel may select from among these components to assemble a space program and compose alternative preliminary layout designs for a locally appropriate mess facility.

Each activity area covers one mess function such as dining, lounge, multipurpose, patron support, administration, kitchen and staff support. Each activity area is then broken down into its component subareas, for example, dining room, lounge, bar, function room, and so on. Some subareas include important specialized items such as waiter station, stage, dance floor, which are identified separately as elements. Plate 2 presents an illustration of possible activity areas and subareas from which to choose.

2.3.3 Program Packages. After determining local needs and resources, and defining a viable mess concept, the next step in the project development process is the formulation of a space program. Individual pieces of the program package are selected from the MCA system on the basis of required functions and space types. Items may be added, deleted, combined or otherwise modified according to programmatic requirements. To illustrate this concept, a sample of possible program packages is outlined in Table 1.

2.3.4 Space Factors. The maximum gross area allowed for a mess facility is specified by space criteria set forth in MIL-HDBK-1190, Facility Planning and Design Guide, depending on the size of its user population. Additional



Title	Date	Category Code	Plate
MESS COMPONENT AREAS	March 1987	740 Series	2

Table 1
Illustrative Mess Program Packages

SINGLE RANK MESS	
DINING AREA - Dining room - Dining Patio	ADMINISTRATION AREA Individual Offices - Shared Office Space - General Storage
LOUNGE AREA - Lounge - Bar - Game room - Lounge Terrace - Bar and Lounge Storage	KITCHEN AREA - Serving Area - Food Preparation - Dry and Refrigerated Storage, Central Beverage Systems and Receiving Area - Warewashing/Potwashing - Chef's Office and - Miscellaneous Support Space
MULTIPURPOSE AREA - Function room - Service Bar - Function room Storage	STAFF SUPPORT AREA - Employee Lounge, Lockers and Toilets - Janitor's Closet - Mechanical room
PATRON SUPPORT AREA - Lobby/Circulation - Coat room - Toilets - Front Desk	
SIMPLE CONSOLIDATED MESS	
DINING/MULTIPURPOSE AREA - Dining/Function room - Dining Patio - Storage	KITCHEN AREA - Serving Area - Food Preparation - Dry and Refrigerated Storage, Central Beverage Systems and Receiving Area - Warewashing/Potwashing - Chef's Office and Miscellaneous Support Space
LOUNGE AREA - Officer and CPO Lounge and Bar - Enlisted Lounge and Bar - Lounge Terraces - Bar and Lounge Storage	STAFF SUPPORT AREA - Employee Lounge, Lockers and Toilets - Janitor's Closet - Mechanical room
PATRON SUPPORT AREA - Lobby/Circulation - Coat room - Toilets - Front Desk	
ADMINISTRATION AREA - Individual Offices - Shared Office Space - General Storage	

Table 1 (continued)
Illustrative Mess Program Packages

COLLOCATED CONSOLIDATED MESS	
DINING AREA - Office dining room - CPO dining room - Enlisted dining room - Cafe dining	ADMINISTRATION AREA - Individual Offices - Shared Office Space - General Storage
LOUNGE AREA - Officer Lounge and Bar - Officer Game room - CPO Lounge and Bar - CPO Game room - Enlisted Lounge and Bar - Enlisted Game room - Lounge Terrace - Bar and Lounge Storage	KITCHEN AREA - Serving Area - Food Preparation - Dry and Refrigerated Storage, Central Beverage Systems and Receiving Area - Warewashing/Potwashing - Chef's Office and Miscellaneous Support Space
MULTIPURPOSE AREA - Function room - Service Bar - Function room Storage	STAFF SUPPORT AREA - Employee Lounge, Lockers and Toilets - Janitor's Closet - Mechanical room
FAST FOOD AREA - Serving Area - Food Preparation - Ice cream Bar	
PATRON SUPPORT AREA - Officer Lobby/Circulation/Front Desk CPO Lobby/Circulation/Front Desk - Enlisted Lobby/Circulation/ Front Desk - Officer Coat room - CPO Coat room - Enlisted Coat room - Officer Toilets - CPO Toilets Enlisted Toilets	

space shall not be obtained by placing mechanical equipment on the roof of the facility. The subsequent step in the project planning is the breakdown of the gross square footage into a detailed space program on an area by area basis. The space factors presented in Table 2 are rule-of-thumb space standards or area requirements for the uses typically included in mess operations and provide a starting point for determining preliminary space program areas. These are intended to serve only as a rough guide, subject to adjustment on the basis of professional experience and good design judgment. The program areas will change as the design process progresses and the programmatic requirements and local constraints of the particular facility are individually addressed. As mess designs deviate further from the simpler and familiar single rank facility to the more innovative consolidated types, calculations based on the space factors will have to be adjusted accordingly.

Table 2
Space Program Factors

Area	Use Unit	Range	Factor	Notes
Dining Area				
- Dining Room	# seats	12-18 NSF/seat (1.11-1.67 NSM)	16 NSF/seat (1.49 NSM)	Includes space for Waiter Stations and Side Stands
Lounge Area				
- Lounge	# seats	15-18 NSF/seat (1.39-1.67 NSM)	18 NSF/seat (1.67 NSM)	Includes Bar, Dance floor and Bandstand
- Game Room	NSF (NSM) Lounge	Equivalent of 30-50% of NSF (NSM) Lounge	33% of NSF (NSM) Lounge	Higher % for Enlisted Mess and smaller facilities
- Bar/Lounge Storage	NSF (NSM) Lounge	Equivalent of 7-10% of NSF (NSM) Lounge	10% of NSF (NSM) Lounge	Higher % for smaller facilities
Multipurpose Area				
- Function Room	# seats for banquet seating	10-12 NSF/seat (0.93-1.11 NSM)	12 NSF/seat (1.11 NSM)	Higher NSF (NSM) for smaller facilities
- Function Room Storage	NSF (NSM) Function Room	Equivalent of 10-15% of NSF (NSM) Function Room	15% of NSF (NSM) Function Room	Higher % for smaller facilities
Fast Food Area				
- Cafe Dining	# seats	12-18 NSF/seat (1.11-1.67 NSM)	16 NSF/seat (1.49 NSM)	May be included in NSF (NSM) Dining Room
- Food Preparation and Serving Counter	NSF (NSM) Cafe Dining (or implicit portion of Dining Room)	Equivalent of 50-80% of NSF (NSM) Cafe Dining	65% of NSF (NSM) Cafe Dining	Higher % for smaller facilities or more complex menus

NSF = net square feet NSM = net square meters

Table 2 (continued)

Area	Use Unit	Range	Factor	Notes
Patron Support Area - Lobby/Circulation	facility	NSF (NSM) total total facility	17-25% of NSF (NSM) total for single rank; 21% for consolidated; 23% for collocated	17% of NSF (NSM)
- Coat Room	# seats in largest activity room		0.9 NSF/seat (0.08 NSM)	Minimum size 100 NSF (9.29 NSM)
- Toilets	Total # seats in facility		(4.65 NSM) 50 NSF/50 seat unit	1 unit of 50 NSF (4.65 NSM) provides 1 lavatory and 1 w.c. (alternative: 3% of NSF [NSM] total facility)
Administration - Individual Offices	# senior staff	100-150 NSF/person (9.29-13.94 NSM)	120 NSF/person (11.15 NSM)	
- Shared Office Space	# junior/support staff	60-90 NSF/person (5.57-8.36 NSM)	80 NSF/person (7.43 NSM)	
- General Storage	facility	70-150 NSF/facility (6.5-13.94 NSM)	100 NSF/facility (9.29 NSM)	Larger for bigger facilities
Kitchen Area - Kitchen Total	NSF (NSM) Dining Room & NSF (NSM) Function Room	Sum of NSF (NSM)	May be larger for Dining Room + 40% of NSF (NSM) Function Room	Cafeteria-style dining

NSF = net square feet NSM = net square meters

Table 2 (continued)

Area	Use Unit	Range	Factor	Notes
- Serving Area	NSF (NSM) total Kitchen		20% of NSF (NSM) total Kitchen	All Kitchen sub-areas may vary according to individual mess food service operations
- Food Preparation	NSF (NSM) total Kitchen		35%	
- Dry & Refrigerated Storage, Central Beverage Systems and Receiving Area	NSF (NSM) total Kitchen		25%	
- Warewashing/ Potwashing	NSF (NSM) total Kitchen		15%	
- Chef's Office and Misc. Support Space	NSF (NSM) total Kitchen	5%		Minimum size 100 NSF (9.29 NSM)
Staff Support Area				
- Employee Lounge/ Lockers/Toilets	NSF (NSM) total Kitchen	8-15% of NSF (NSM) total Kitchen	Equivalent of 12% of NSF (NSM)	
- Janitor's Closet	NSF (NSM) total facility	0.5-0.8% of NSF (NSM) total facility	0.6% of NSF total facility	Higher % for smaller facilities
- Mechanical Room	NSF (NSM) total facility	4-7% of NSF (NSM) total facility	5% of NSF (NSM) total facility	Generally not included in NSF (NSM) total facility. Higher % for smaller facilities.
Construction (Net to Gross ratio)	NSF (NSM) total facility	5-10% of NSF (NSM) total facility	8% of NSF (NSM) total facility	Higher % for small facilities

NSF = net square feet NSM = net square meters

Section 3: GENERAL DESIGN

3.1 Overall Design Considerations

3.1.1 Quality Facility. An attractively designed and well managed mess facility will play a significant role in maintaining good base morale. Closely approximating its civilian counterparts such as restaurants, bars, clubs and hotel function rooms, the ideal mess facility should be of a high architectural quality which maximizes its appeal and service to patrons without sacrificing operational efficiency and economy. Messes must be able to compete successfully with similar civilian establishments off base or in nearby urban centers.

3.1.2 Local Requirements. Navy and Marine Corps user groups vary according to their mix of rank, age, sex, marital status and occupation. The physical character of the facility, namely, building image, architectural style and interior design of each component area, and user-related symbols and its programs and activities, such as food services, entertainment, leisure amenities, should reflect the tastes and social preferences of the personnel it seeks to attract. Depending on the number of different ranks of personnel, the mix and sizes of spaces within separate or shared mess facilities will differ widely. Operational requirements may also differ based on the nature of local services and supply systems.

3.1.3 Use Flexibility. Primary patron use spaces should be designed to accommodate multiple and changing activity patterns during the course of normal mess operations. To the extent possible, spaces should be designed to accommodate a variety of activities for varying group sizes and allow alternative furniture arrangements. Interior fixtures should be portable wherever possible. To permit flexible space use, ample accessible storage space should be provided for storing furniture, equipment and space dividers.

3.1.4 Functional Layout. The overall layout of a mess facility shall be designed to promote smooth and efficient operation. Related patron use, service and support areas should be juxtaposed to achieve desirable space relationships. Access and circulation routes should be clear and direct, and avoid bottlenecks and conflicts between patron and service flows.

3.1.5 Facility Character. The architectural image of each mess should be distinctive and communicate its important place in the social life of the base community. While responding to particular site and climatic conditions, the building form should express the primary use spaces accommodated within the mess facility and draw upon familiar civilian architectural imagery to suggest its use. Design features typically associated with anonymous instructional buildings should be avoided.

The architectural vocabulary used for the facility should reflect local base and regional architectural styles. Additional design guidance is contained in NAVFAC P-960, Installation Design (Tri-Service). The design of building exteriors, landscaping, signage, etc. should conform to criteria in Base Exterior Architecture Plans (BEAP) where such documents have been prepared for individual installations.

3.1.6 Staffing Requirements. Optimum staffing levels should be considered in the overall layout and design of all mess facilities. Particularly in situations where the size of base user populations fluctuates drastically due to periodic offbase and offshore assignments, messes should be designed to operate smoothly and economically with a skeleton staff during low use periods.

3.1.7 Life Cycle Costing. Life cycle cost analyses shall be carried out for suitable alternative building systems, technical components, equipment and materials in accordance with criteria specified in NAVFAC P-442, Economic Analysis Handbook. The appraisal must include the initial construction cost, and operating, maintenance, custodial and replacement costs over the estimated life span of the building.

3.1.8 Durability and Maintenance. Materials, utility systems, finishes, furnishings, furniture and equipment should all be selected and designed to stand up well to anticipated wear, and for ease of repair and maintenance. Building systems and mechanical equipment should have adequate system controls such as switches and shutoff valves. All such systems, equipment and controls shall be readily accessible.

3.1.9 Energy Conservation. To conserve energy, the building design should be responsive to the predominant local climate and site microclimate. The building should be oriented to take maximum advantage of passive solar heating and daylighting of kitchen and administrative areas. In warm climates, the building design and orientation should minimize heat gain, prevent glare and take advantage of summer breezes. In cold climates, the building should be such that it is afforded protection against prevailing winter winds, particularly at entrances and outdoor areas which should be adequately sheltered. Suitable planting, positioned appropriately relative to the building, will ameliorate the site microclimate. Building materials and insulation shall be selected to reduce heat gain or loss.

The architectural design should conform to criteria contained in MIL-HDBK-1190. The maximum annual energy consumption of new facilities shall not exceed DOD energy targets as issued by MIL-HDBK-1190. Prior to initiating a fixed design, all feasible energy conservation measures, other than solar-related systems, shall be evaluated using criteria specified in NAVFAC P-442.

3.1.10 Handicapped Access. All indoor and outdoor patron areas must be barrier-free and readily accessible to the physically handicapped in accordance with design criteria in MIL-HDBK-1190.

3.1.11 Consultant Input. At each stage in the Project Development Process, relevant professionals including architects, engineers, interior designers and food service specialists should be consulted. Timely professional advice is vital not only to build a high quality facility, but also to ensure a relatively smooth and cost effective project development process with less risk of error or oversight. Consultants should be selected on the basis of their expertise, related project experience, and ability to propose creative design solutions. Food service consultants should be able to provide nonproprietary specifications for kitchen equipment.

3.2 Site Design

3.2.1 Site Organization. Dominant or attractive features of the site and its surroundings should be used to help determine the site organization. These features may include topography, existing mature vegetation, distant attractive landscapes and patterns of neighboring structures. To call attention to itself as an important social amenity on the base, the building should be prominently positioned on the site. The site design should be compatible with the massing and architectural character of the building. See Plate 3 for site organization issues. Additional design guidance is provided in NAVFAC P-960.

3.2.2 Patron Access. In single rank and simple consolidated messes, the main patron entrance should be clearly visible and identifiable. A secondary entry may be provided to the lounge area.

Collocated consolidated messes should be provided with separate entrances for officers, chief petty officers, enlisted personnel or other user groups served by the facility and the multipurpose area (see Plate 4). Separate vehicular access to the drop off area at each entrance, and the service area should be provided. Given the complexity of access design for collocated consolidated messes, extreme care should be exercised in planning for future building expansion and parking requirements.

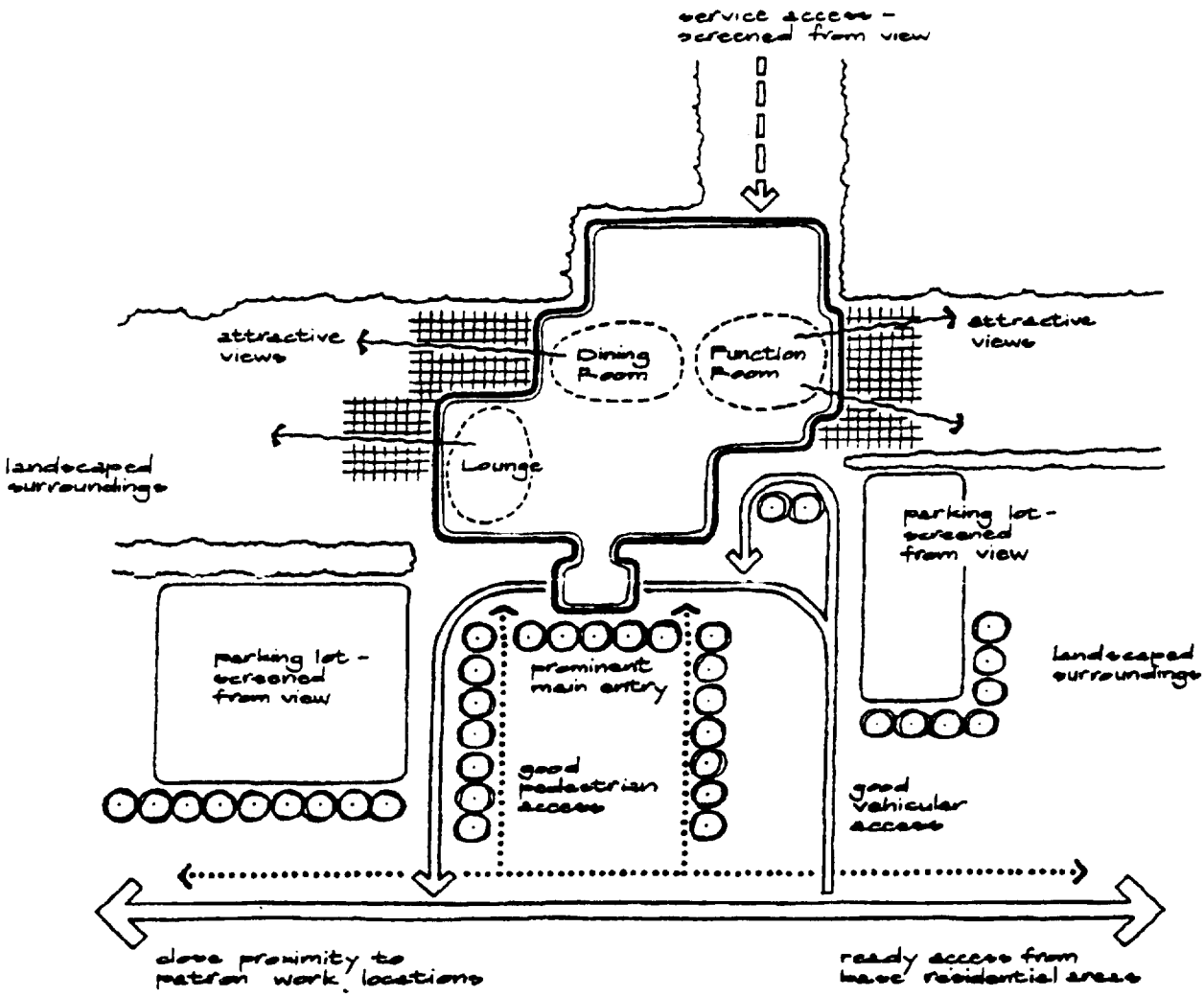
3.2.3 Parking. A separate parking area should be provided near each entrance reserved for a specific user group (see Plate 4). Especially in large messes, the provision of separate VIP parking close to the main entrance should be considered. Separate staff parking may also be considered for larger facilities. The number of parking spaces provided, and the number and design of parking spaces for handicapped drivers, shall be in accordance with criteria specified in MIL-HDBK-1190.

Parking areas should be located so they do not dominate the main entrances and public image of the facility. Landscaping should be used to soften the harsh impact of large expanses of asphalt paving and accentuate parking lot circulation. Within each parking lot, 10-15 percent of the total area should be dedicated to landscaped open space. Additional design guidance is provided in NAVFAC P-960.

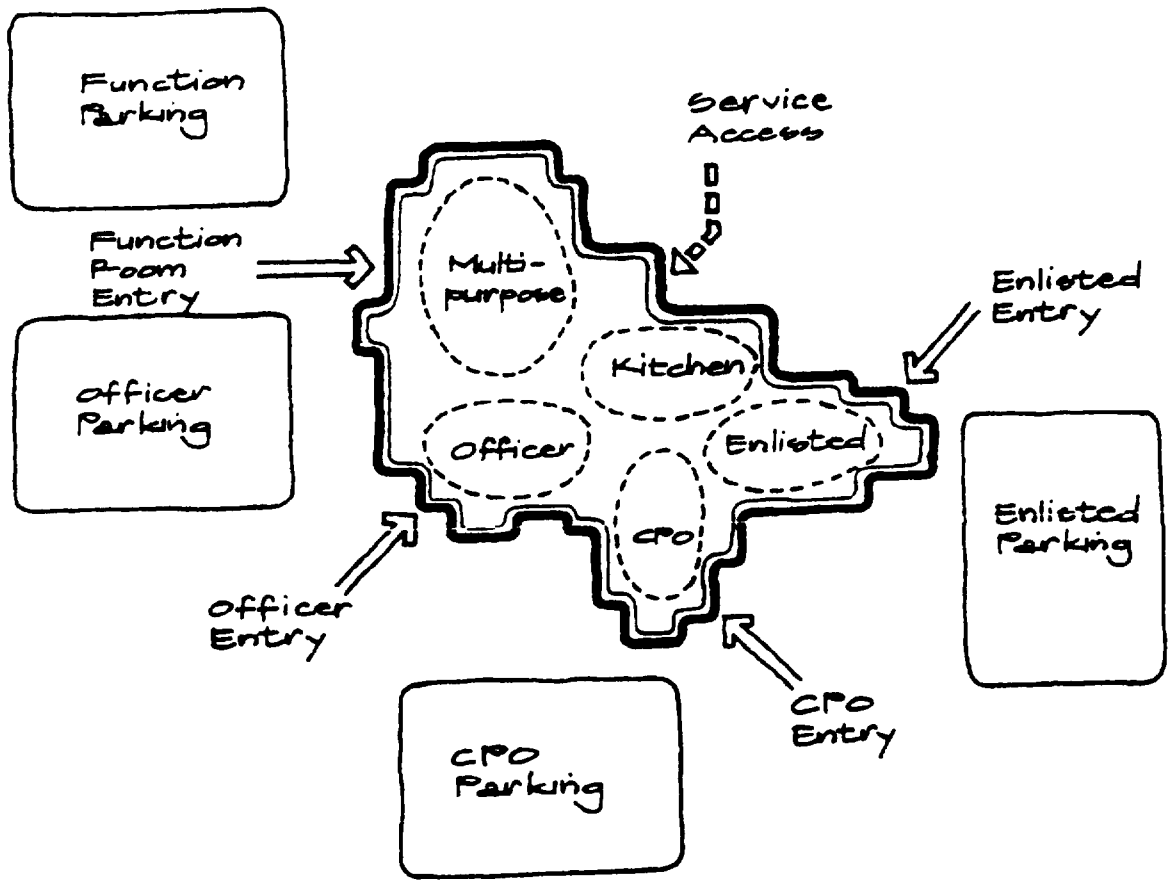
3.2.4 Service Access. Service and delivery access should be well separated from patron access. The service access road should be sized to accommodate truck sizes anticipated for local mess operations. All service and delivery areas should be hidden from view with attractive screen walls or other landscaping elements.

3.2.5 Site Utilities. Water supply, sanitary sewers, storm drainage, natural gas supply, heat transmission lines, and electricity to the site shall be provided in accordance with design criteria in MIL-HDBK-1190 and local utility requirements. Telephone, television and fire alarm service to the building shall be provided in accordance with design criteria in MIL-HDBK-1190 and local service procedures.

3.2.6 Landscape Design. Landscaping should be designed to enhance building exteriors and provide spatial definition for adjacent outdoor areas.



Title	Date	Category Code	Plate
SITE ORGANIZATION ISSUES	March 1987	740 Series	3



Title	Date	Category Code	Plate
ACCESS AND PARKING FOR COLLOCATED CONSOLIDATED MESSES	March 1987	740 Series	4

Guidance for landscape design is provided in NAVFAC P-960. All planting shall be in accordance with criteria in NAVFAC P-905, Planting and Establishment of Trees, Shrubs, Ground Covers, and Vines.

3.2.7 Related Facilities. To encourage greater use by base personnel, messes may be collocated with related recreational and entertainment facilities. The specific collocated mix should be locally determined after evaluating existing facilities, programs and activities. Examples of facilities which may be collocated with messes include health clubs, bowling alleys, swimming pools, tennis courts, golf courses, marinas, etc. The relationship of these other recreational facilities and the messes may take on a variety of physical forms: separate buildings on contiguous sites; one large building constructed all at once or in phases; consolidated facilities with shared function spaces and common service areas.

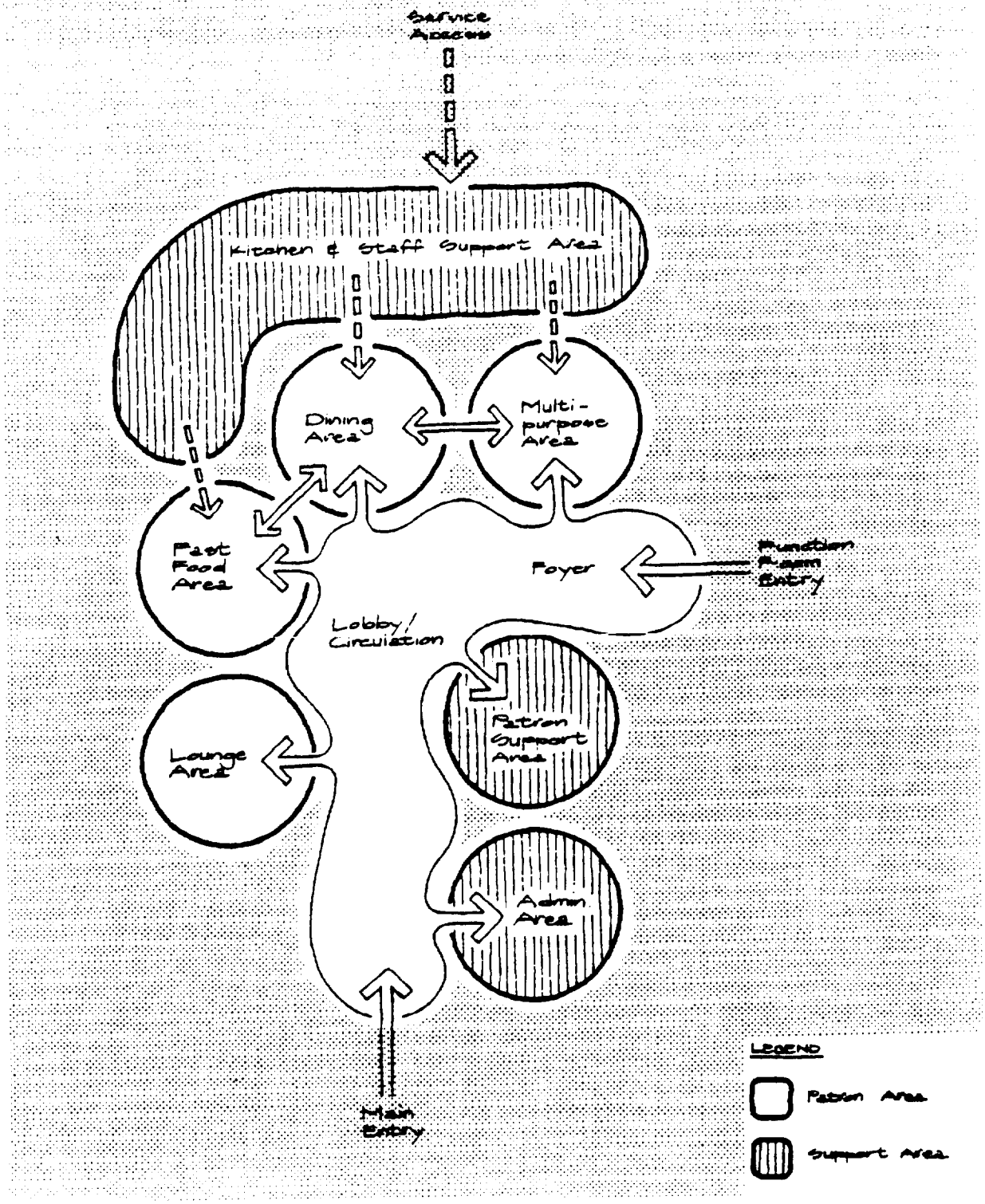
3.3 Architectural Design

3.3.1 Spatial Organization and Circulation. For facility planning, mess activity areas should be organized into three functional zones. One zone consists of the dining, lounge, and multipurpose areas. A second zone is comprised of the patron support and administration areas. The kitchen and staff support areas make up a third zone.

Important activity area relationships (see Plate 5) are that primary patron use areas such as the dining room, lounge and function room should be clustered around the lobby, along with patron support facilities such as coat room and toilets, and the administration area. Primary patron use areas should be able to function independently. However, proximity between the spaces should permit appropriate activity relationships and sequential uses, as from lounge to dining, or between dining and function room. Dining and function rooms may have an open connection between them to permit each space to function as an extension of the other when appropriate. Wherever possible, the dining room, lounge, and function room should all be located on the perimeter of the building to permit adjacent, visible and accessible outdoor spaces. The bar portion of the lounge should be located or screened so as not to intrude on the character and activities of the dining room, function room, and lobby. The lounge may also be positioned to permit a possible separate entrance. To accommodate multiple user groups and activity areas, it may prove necessary to modify these arrangements in consolidated messes.

For efficient food service, the kitchen shall be immediately adjacent to one end of both dining room and function room. When included in a mess facility, the fast food area should be connected to the kitchen so that it may be conveniently serviced from the storage and cold/rough food preparation areas. Each mess should have a readily identifiable main entrance which celebrates the sense of arrival or departure. In larger consolidated messes, separate entrances may be required for each rank category which is accommodated in the mess. Entrances should be prominently positioned and readily visible from pedestrian and vehicular approaches to the facility.

Patron circulation shall not cross staff circulation to dining or function rooms from the kitchen and other service areas. Direct patron access shall be provided from lobby/circulation to the dining room, lounge, and function room, without crossing other activity spaces. The service entrance for the facility



Title	Date	Category Code	Plate
ACTIVITY AREA RELATIONSHIPS	March 1987	740 Series	5

shall be separate from patron access and provide direct service to the kitchen area.

When functional relationships get complicated or the site area limits an appropriately-sized, one-story facility, a two-level mess may be considered. For example, in a collated consolidated mess with separate activity areas for three rank groups, a function room may be located on the second floor to allow all groups to have separate direct interior access to the function room without crossing service routes.

3.3.1.1 Consolidation. Consolidation of mess facilities serving different rank categories may be considered for programmatic and economic reasons. The specific consolidation arrangements may vary depending on existing facilities, local needs and resources, the size and preferences of user populations, and base command decisions. Every effort shall be made to consolidate nonpatron use activity areas such as kitchen, staff support and administration, where possible. Patron use spaces not utilized on a daily basis, such as the function room, may also be conveniently consolidated.

Patron considerations suggest that areas most suitable for consolidation are those which keep inter-rank mixing to a minimum. Cost effectiveness considerations suggest consolidation of areas containing costly equipment and fixtures. Table 3 presents an order of activity area consolidations based both on patron preferences and cost effectiveness. It is intended only as guidance for informed local command decision making. Recognition of the relationship between the potential spatial consolidation and the varying levels of rank separation/consolidation is essential to this process.

3.3.1.2 Collocation. Whereas in simple consolidated messes all areas are shared by all rank categories, in collocated consolidated messes only the multipurpose, administration, kitchen, and staff support areas are shared. For privacy, patron use areas for different rank categories should be removed from each other. Patron access to the separate portions of the mess should be located on different sides of the facility. Internally within each rank group cluster, the relationships between dining room, lounge, game room, and lobby should be similar to those in single rank facilities. The administration area should be located most proximate to the officer cluster.

Because the kitchen serves numerous patron areas; it shall be located at the core of the facility. Good access shall be provided for food service from the kitchen to all dining rooms and the function room. In a single level facility, internal patron access to the function room from all separate portions of the mess may not be possible without crossing service routes. Under no circumstances shall primary patron circulation cross service access.

By having all separate dining rooms and the function room adjoin the kitchen core, the provision of adjacent outdoor dining patios may be compromised. Service access considerations should be overriding in such cases.

3.3.1.3 Use of MCA System. Activity areas appropriate to local programmatic requirements should be selected from the MCA System and used to generate a preliminary layout design. This rough but realistic configuration should form a sound basis for design exploration. Plate 6 provides a sample illustration of the use of the system for layout design.

Table 3
Order of Activity Area Consolidations

ACTIVITY AREA[1]	PATRON PREFERENCE[2]	COST EFFECTIVENESS[3]	OPTIMUM RANK COMBINATION[4]
Kitchen	1	1	All ranks
Administration	2	5	All ranks
Multipurpose	3	3	All ranks
Game room	4	7	All ranks
Local Option Recreational Facilities	5	4	All ranks
Dining	6	6	(i) Officers/Chiefs[5] (ii) Enlisted[5] (iii) All ranks[5]
Parking	7	9	All ranks
Patron Support	8	8	All ranks
Lounge	9	2	(i) Officers/Chiefs[5] (ii) Enlisted[5] (iii) All ranks[5]

NOTES:

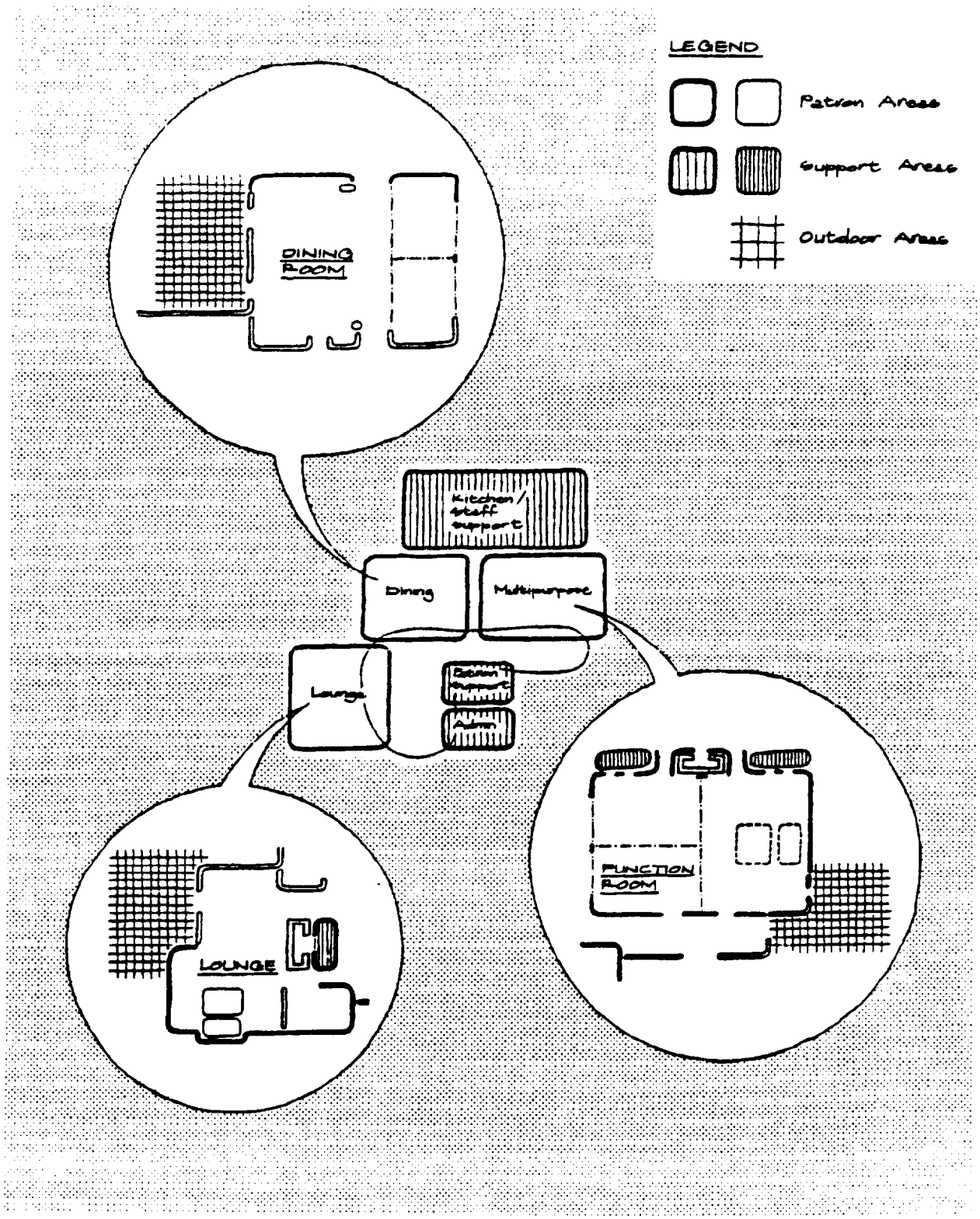
1. Activities areas represent the breakdown of a mess facility into its typical major functional components.

2. Patron preference indicates patron attitudes towards the consolidation of specific mess activity areas by different rank groups. The activity areas are ranked in order, starting with the area that patrons would most prefer to share, and ending with the one where rank segregation is most valued.

3. Cost effectiveness indicates activity areas which, if consolidated for sharing by two or more rank groups, would have the greatest impact on cost savings. The activity areas are ranked in order, starting with the area where cost savings due to consolidation would be the greatest, and ending with the area where the cost savings would be the least.

4. Optimum rank combination indicates which combination of rank groups may best share specific activity areas within a mess facility.

5. Optimum rank combinations for dining and lounge activity areas consist of three options. Separate activity areas may be provided for the following rank combinations: officers and chiefs only; all enlisted personnel only; and all ranks.



Title	Date	Category Code	Plate
USE OF MESS COMPONENT AREAS SYSTEM	March 1987	740 Series	6

3.3.2 Architectural Character. An individual architectural theme shall be created for each facility. This theme shall be applied consistently to the entire design of the facility, from overall architectural expression to specific space design, building details and interior character. Care shall be exercised in selecting themes which may be short-lived design trends. When new buildings are introduced in historic settings, their designs shall be compatible with the old in their scale, form and use of materials.

3.3.2.1 Form and Massing. A distinctive building form, and composition of major volumetric components will lend the facility a distinctive image. The building massing shall respond to site conditions and coherently express the overall mess layout and location of major uses. Primary entrances and important spaces such as the dining room, lounge, and function room, shall dominate the architectural expression.

3.3.2.2 Building Perimeter. Building perimeter design considerations shall include fenestration, surface modulation, and exterior building materials. In addition to providing the desired level of visual transparency and physical access at the building perimeter, door and window openings should be designed to complement the building form and architectural character. Fenestration proportions and details should lend the building a comfortable human scale. Large expanses of flat, blank exterior walls should be avoided. Where appropriate, surfaces shall be punctuated with fenestration and other suitable architectural features, and modulated with spatial protrusions and recesses. The color, pattern and texture of building materials, and the shadows cast by modulated surfaces, may be used to enliven facility exteriors.

Patios, terraces, verandas, and porticos can function as extensions of indoor areas and allow activities to spill over outdoors. Such outdoor areas shall be spatially defined by the building form, paving materials, and architectural elements such as roof overhangs, collonades, level changes, low walls, trellises, pergolas, canvas awnings, etc. Appropriately designed outdoor areas will animate the building edge, and create a transitional architectural zone between the building interior and surrounding open spaces. By displaying patron activities, such outdoor areas will lend a more inviting quality to the mess.

3.3.2.3 Formal Spaces. Some messes may be principal locations for holding social functions, base ceremonies and protocol events. In such instances, primary patron-use spaces may be designed to express a more formal spatial quality. Formal architectural expression may be achieved through the use of regular shapes, symmetry and generously proportioned spaces and elegant interior design. Traditional Navy and Marine Corps motifs and symbols may be incorporated into the design to lend a special sense of dignity.

3.3.3 Renovation and Retrofitting. Renovation and retrofitting of existing messes and other base buildings may be a viable alternative to constructing entirely new mess facilities.

3.3.3.1 Building Suitability. Buildings selected for conversion to messes should be permanent structures, large enough to accommodate the full range of functions and programs. However, some compromises may be required because of constraints of the existing construction. In evaluation of facilities for reuse, ensure that the building structure, infill and environmental systems

are capable of reorganization and manipulation of areas and volumes to meet mess requirements. Open interior spaces make the building easier to adapt and renovate.

Before designing improvements to existing messes; space allocation, use, and patron and service flows should be thoroughly analyzed. The design goals for improving existing messes should be to achieve better space utilization, smoother patron and staff circulation, greater environmental comfort, efficient energy use, and a more attractive facility.

3.3.3.2 Renovation Design. All general architectural, site design, and interior design guidelines of this handbook are applicable to renovation of existing structures, as they are to new construction. Transformation of both the interior and exterior image of the building will probably be required to achieve the desired architectural character for a mess. This may be accomplished by interior and exterior painting, decorative detailing, building and exterior space addition, modification of fenestration and entrances, and landscaping.

3.3.4 Phased Construction and Expansion Potential. If the growth of mess operations can be forecast with some certainty, spaces expected to expand should be programmed accordingly and a building design developed to accommodate phased construction. Unless otherwise precluded, horizontal rather than vertical expansion is recommended. Building envelopes shall be designed to facilitate additions, and areas expected to expand shall be located on the building perimeter. To ensure that initial building layout is functionally and aesthetically compatible with expected spatial additions, potential design layouts accommodating the expanded space requirements shall be developed.

3.4 Interior Design. Interior design services shall be contracted from the inception of the project and integral with the architectural design program. The interior design package shall be complete and involve functional analysis of the building organization and circulation, consideration of desirable environmental character and flexibility requirements, specification and selection of appropriate colors, finishes and furnishings, artifacts, graphics and signage design, and installation of special equipment.

The general environmental character of the facility interior shall be in keeping with the architectural design theme established for the whole building. Each individual space within the facility shall be treated separately as a variation of the theme and have a distinct identity and quality appropriate to its specific use.

3.4.1 Materials and Finishes. Selection of materials and finishes shall be based on consideration of anticipated use, durability, maintenance characteristics, life cycle cost, and fire and safety requirements. The selected materials and finishes shall be coordinated to complement the overall architectural design and building image. Carpet selection shall be in accordance with criteria in NAVFAC DM-14.02, Carpet Selection Guide. All other materials and finishes shall meet performance criteria specified by space type in Section 4 of this handbook. All materials and finishes shall conform to flame spread characteristics as defined in MIL-HDBK-1008, Fire Protection for Facilities Engineering Design and Construction.

3.4.2 Colors. The range of interior and exterior paint colors shall be selected from a standard paint color system. Colors shall be selected to form an integral part of the comprehensive interior design scheme for each facility.

3.4.3 Furniture, Furnishings and Equipment. Selection of furniture, furnishings and equipment shall be coordinated with finishes, colors, textures and materials of other architectural elements. All items shall be durable, relatively maintenance free, competitively priced and selected in close consultation with an experienced interior design professional. All furniture and furnishings specified shall have a Class AA fire rating and conform to local command requirements. Kitchen related items shall be selected with input from a food services specialist. All kitchen equipment shall meet National Sanitation Foundation (NSF) standards, or equivalent.

3.4.4 Graphics and Signage. A system of graphics and signage shall be developed as an integral part of the overall interior design scheme. The graphics and signage system shall provide program and directional information, identify spaces, and convey messages and regulations. All graphics and signs shall be clear, attractive, similar in style, and easy to change and maintain. If a base-wide signage system or standard has been developed, the signage design for the mess shall comply with its guidelines, while providing for architectural and informational requirements specific to mess facilities.

3.5 Structural Design

3.5.1 Economy. An economical structural system shall be selected based on facility size, projected load requirements, quality of locally-available materials, local labor and construction practices, and local wind, snow, seismic, geologic and permafrost conditions. All structural design shall conform to minimum design criteria established in NAVFAC DM-2 Series, Structural Engineering, and MIL-HDBK-1190.

3.5.2 Structural Module. Where appropriate, building structural modules should be designed to reflect space requirements and structural economy, and efficiently accommodate building components such as ceiling grids, space partitions, masonry units, framing members, etc.

3.5.3 Clear Spans. Primary patron use spaces such as the function room may require large floor areas uninterrupted by structural supports. Refer to Section 4 for special considerations.

3.5.4 Future Expansion. Projected future needs shall be analyzed and considered in the selection and design of the building structural system. Future expansion should be easily and economically accommodated. Where possible, such expansion should occur horizontally. Initial construction should not be over designed.

3.6 HVAC Design

3.6.1 System Design Criteria. Heating, ventilation, humidification and air conditioning (HVAC) systems shall be designed to comply fully with criteria established in MIL-HDBK-1190 and NAVFAC DM-3.03, Heating, Ventilating, Air Conditioning, and Dehumidifying Systems. Ease of repair and maintenance must be facilitated in design and construction. Life cycle cost

analyses of available energy sources shall be performed in accordance with the procedures described in MIL-HDBK-1190 and NAVFAC DM-3.03. Inside design temperatures and minimum relative humidity levels shall conform strictly with criteria in MIL-HDBK-1190 and NAVFAC DM-3.03. All energy measures, other than solar related systems, shall be analyzed using life cycle cost criteria specified in NAVFAC P-442. Special attention should be paid to the system design for the kitchen area; it must be coordinated with fire protection designs for exhaust hood ventilation and the fire protection system.

3.6.2 Zoning and Controls. A night setback system shall be provided for the HVAC system, and the heating and cooling systems shall be equipped with zone controls. Variable volume and variable temperature control systems should be considered. This will allow for maintaining different environmental conditions in different areas of a facility in response to varying patterns of occupancy and usage requirements. Facilities shall be provided with temperature sensors with remote adjustment in preference to thermostats. Where appropriate, HVAC systems may be connected to base Energy Monitoring Control Systems (EMCS).

3.7 Plumbing Design

3.7.1 Supply Systems. Hot and cold water, sanitary and storm drainage, plus propane or natural gas systems, if required, shall be provided in accord with design criteria established in NAVFAC DM-3.01, Plumbing Systems.

3.7.2 Drains. Floor drains shall be provided in toilets, janitors closets, kitchens and other areas in accordance with design criteria in NAVFAC DM-3.01. Kitchen drains shall have grease traps.

3.7.3 Miscellaneous. All fixtures shall have shutoff valves. Depending on the project, frost free hose bibbs shall be provided on all exterior walls if local climatic conditions justify. Gas service shall be metered, and water metering should be incorporated where water conservation measures are justified.

3.8 Electrical Design

3.8.1 Service and Distribution. Electric service and utilization equipment, wiring, receptacles and grounding, interior and exterior lighting, telephone, fire alarm, and intrusion systems shall be provided in accord with design Electrical Engineering criteria in NAVFAC DM-4.1, Preliminary Design Considerations, DM-4.2, Power Distribution Systems, and MIL-HDBK-1004/4, Electrical Utilization Systems, and the National Electric Code (NEC). Sizing of service ampere capacity shall be based upon the following minimum criteria for the building:

Interior Lighting	2.5 Watts per ft^2
Receptacles	1.0 Watts per ft^2
Exterior Area Lighting	0.10 Watt per ft^2

Adequate power shall be included for HVAC system, plumbing equipment, food service equipment, other special equipment by user, and future expansion. All

service equipment shall be Underwriters Laboratories (UL) listed, or approved by an independent testing laboratory. Metering shall be provided for electric power. Service grounding equipment and all wiring methods shall meet NEC requirements. General convenience receptacles shall be a minimum of 12.0 (3.66 m) on center. Special power outlets and circuits shall be provided for all user furnished equipment as required. If the mess is to be used as an essential feeding facility, provision of emergency power hook up for kitchen operations and food storage should be considered. If 277/480V service is considered, availability of kitchen equipment at that voltage should be verified.

3.8.2 Lighting. Lighting design shall conform to criteria specified in MIL-HDBK-1190, National Fire Protection Agency (NFPA) requirements, and the NEC. High efficiency lamps shall be used as much as practicable. Multiple switching and dimming controls for low ambient light levels, and energy conservation, shall be provided. Battery operated emergency lighting (or otherwise emergency powered), illuminated exit signs, and public address systems shall be provided. Exterior patio lighting shall be located on building walls and exterior lighting shall be provided for parking areas and walkways. In addition to satisfying functional requirements in all mess areas, a variety of general, direct, indirect and decorative lighting options should be considered to enhance the interior design character and atmosphere of patron areas.

3.8.3 Communication Systems. A hands free, two way intercom/public address system and a centrally operated music system shall be provided throughout the facility. The music system shall include an amplifier cabinet, microphone outlets, speakers, and input facilities for phonographs and tape decks. The central intercom console shall be located in the administration area. Wall-mounted, public telephones shall be installed near the patron support spaces and the lobby. Electric clocks of the synchronous motor type shall be provided in entrance lobbies, administrative offices, kitchen, and staff support areas as required. Empty raceways, outlets, and cabinets shall be provided for future telephone installations.

3.8.4 Computers and Automation. Dedicated electrical circuits shall be provided for all electronic cash registers, ordering systems and computer equipment as required. Communication cables or empty conduits between each module of equipment and the Central Processing Unit (CPU) shall be provided as required.

3.9 Fire Protection. Fire protection requirements and concerns shall comply with MIL-HDBK-1008 Fire Protection for Facilities Engineering Design and Construction. Sprinkler systems and fire alarm systems shall be provided when required by one or more of the above criteria. Cooking equipment such as deep fat fryers, ranges, griddles, and boilers shall be protected with a dry, or wet, fire extinguishing system. Cooking exhaust systems shall also be protected and shall be installed in accordance with National Fire Protection Association (NFPA), NFPA-96, Installation of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment. All fire protection system controls shall be readily accessible from the kitchen area.

3.10 Acoustic Design. Acoustic design shall be according to criteria specified in DM-1.03, Architectural Acoustics.

Section 4: COMPONENT AREAS DESIGN

4.1 General. This section presents criteria applicable to the design of each activity area and space which may be included in a mess facility. The criteria contained in this section apply to all types and sizes of messes. For each activity area, primary design considerations are presented indicating use and performance, space relationships and architectural character. Then, for each component space within the activity area, specific criteria are provided concerning space standards, critical dimensions, storage requirements, furnishings and equipment, and technical requirements. The technical requirements address only items with special criteria for the individual space; otherwise, apply the general design criteria presented in Section 3.

4.2 Dining Area

4.2.1 Primary Design Considerations

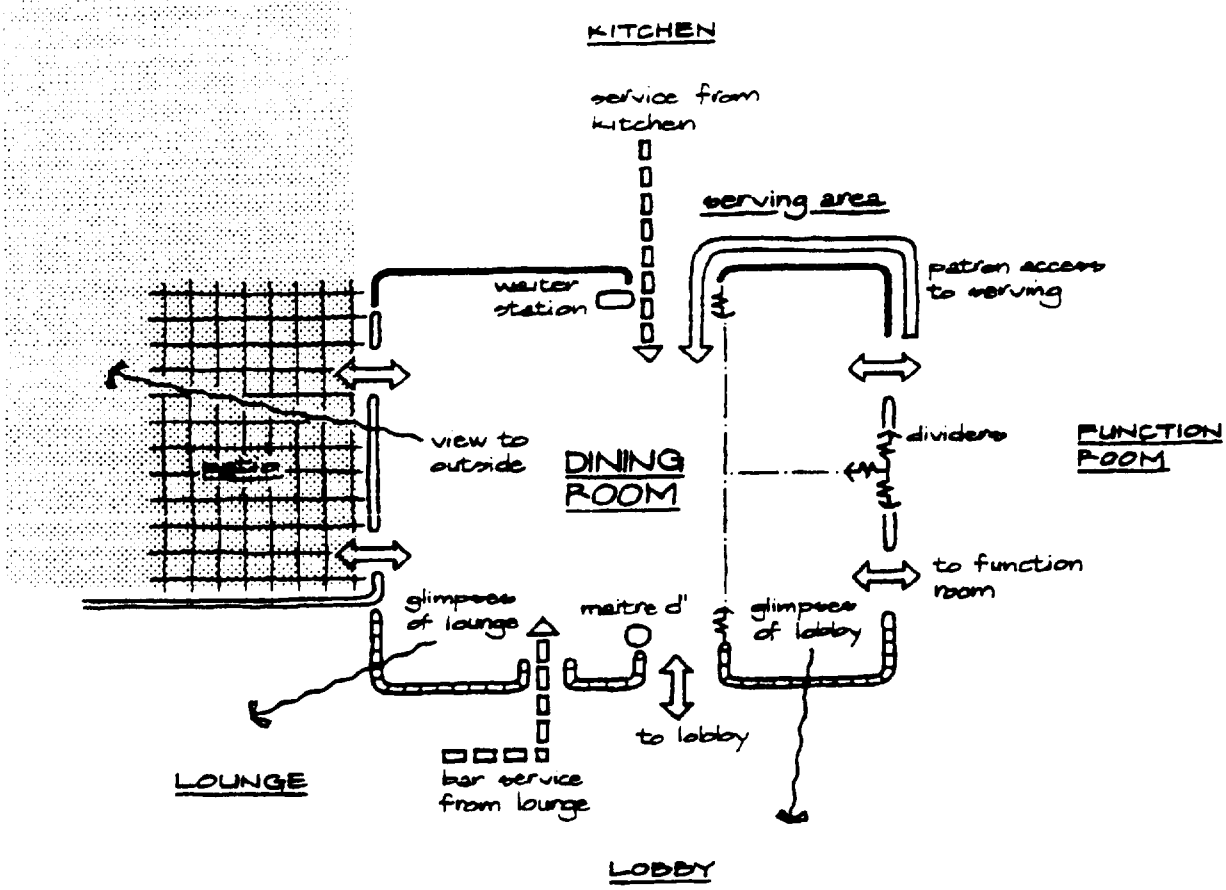
4.2.1.1 Use and Performance. The dining area provides daily food and beverage service. It should be designed to permit a variety of food service operations including full waiter service, cafeteria, buffet, and fast food service.

For cafeteria service, provide patron access to a serving area located between the dining room and the kitchen area. Direct access shall be provided to and from the kitchen area to permit waiter service. Waiter access to the bar in the lounge area or a service bar shall be provided

In a simple consolidated mess, the dining room may be shared by personnel of two or more rank categories. In a collocated consolidated mess, a separate dining room may be provided for each rank category accommodated in the facility. Degrees of sharing and separation of dining areas shall be carefully evaluated to respond to local command functional requirements.

4.2.1.2 Space Organization and Character. Used daily, the dining area should be designed to reflect its primary function in a mess facility. See Plate 7 for dining area space relationships. The dining room shall be directly accessible, and visible, from the lobby. Toilets shall be within close proximity of the dining room. Both the dining room and dining patio should be oriented to take maximum advantage of attractive views afforded by the site. The dining room should be located adjacent to the function room to accommodate dining or function room overflow and to provide visibility of function room activities when required.

Flexible seating shall be provided in any suitable combination of booths, banquettes, and tables and chairs. Seating arrangements shall serve patron parties of twos, fours, sixes, or larger groups. Larger dining rooms shall be dividable for holding small group special events. Moveable partitions may be used for spatial subdivision. The dining room shall be designed to accommodate temporary buffet and salad bar tables in varying arrangements. Large spaces, devoid of architectural features with a uniform floor to ceiling height, shall be avoided. Architectural scale of a dining room should promote



Title	Date	Category Code	Plate
DINING AREA: SPACE RELATIONSHIPS	March 1987	740 Series	7

a feeling of intimacy and a sense of privacy during high or low use periods. Architectural and interior design elements such as columns, ceiling modulation and articulation, skylights, screens and partitions, and level changes, and appropriate use of furnishings, lighting and plants, can help to create subspaces within the dining room. The ambience should be easily varied from bright and cheery to subdued and elegant. Special consideration should be given to noise and smell control between the dining room and the kitchen area.

The dining patio should be located adjacent to the dining room with direct patron and service access. The dining patio should be designed to permit outdoor dining during fair weather conditions.

4.2.2 Dining Subareas, Dining Room. For planning purposes, a space factor in the range of 12 to 18 net ft^2 (1.11 to 1.67 net m^2) per seat should be used, depending on the type of service (cafeteria, waiter service, etc.). Typical critical dimensions are illustrated in Plate 8.

4.2.2.1 Furnishings. Typically, dining rooms shall be provided with these furnishings and equipment: tables (square, rectangular, circular), chairs, banquets and booths, waiter stations (one per 100 seats), side stands (one per 40 seats), headwaiter cashier station, condiments counters (one per 50 seats), and space defining elements such as plants, partitions, screens, banners, display cabinets, etc. Illustrative designs for a waiter station and a side stand are presented in Plate 8.

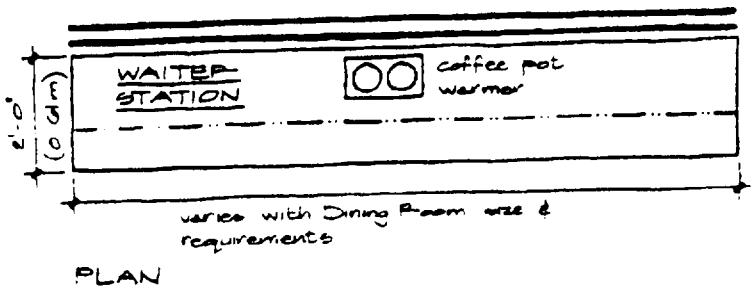
4.2.2.2 Lighting. Lighting shall be coordinated with seating patterns and be controlled by electronic dimmer switches. HVAC and lighting systems and controls shall be designed to accommodate both open and subdivided dining room settings.

4.2.2.3 Public Address. The dining room shall be linked to the facility's central public address and background music system. Switching shall be provided at the headwaiter station which allows seating and other announcements to be made from the dining room to the lounge and function room.

4.2.2.4 Telephones. Telephone jacks for portable phone hookups shall be provided as required. Electrical and possible gas hookups shall be coordinated with likely buffet service table locations.

Surface materials for the dining room shall be durable and comfortable and should complement the interior design character of the space: for example, static control carpet or quarry tile for floors; masonry, wood or painted gypsum wallboard for walls; and gypsum wallboard or wood for ceilings. If commercially manufactured drop in ceiling systems are used, a creative choice should be made to lend a distinctive architectural quality to the mess dining room.

4.2.3 Dining Subareas, Dining Patio. Dining patios shall be provided with attractive and durable furniture, suitable for outdoor use. Furniture items shall include tables with umbrella attachments, chairs, and benches. Barbecue grills may also be provided. Dining patios should be oriented to take advantage of the sun and natural shade so as to encourage maximum use during the year.



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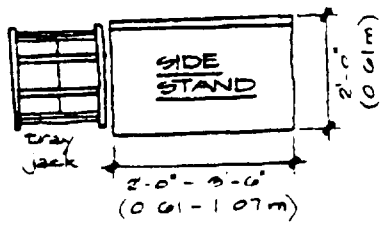

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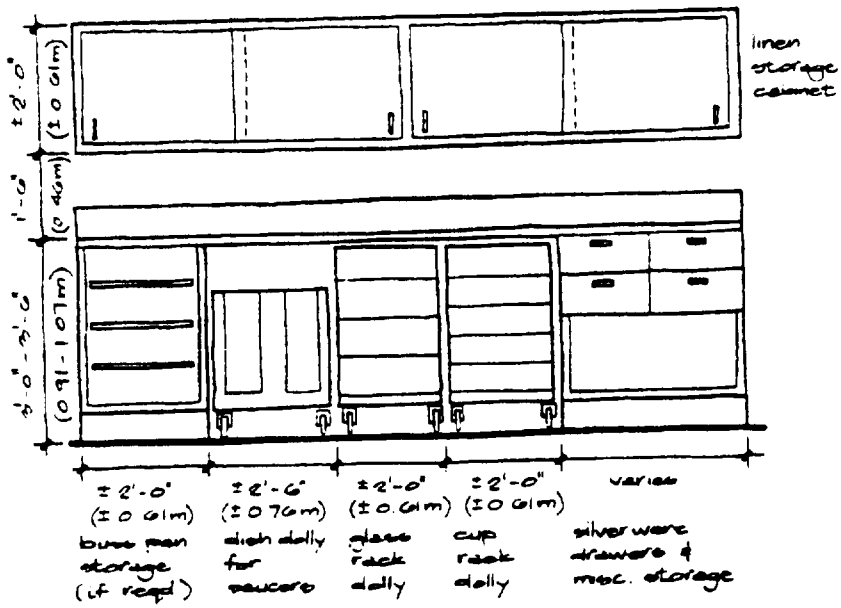
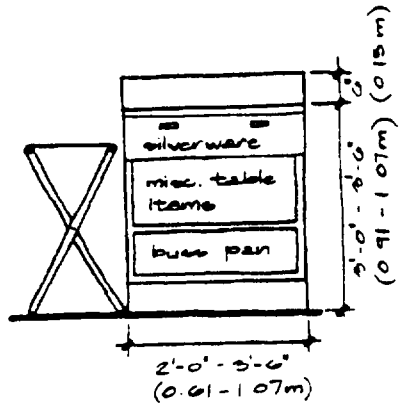
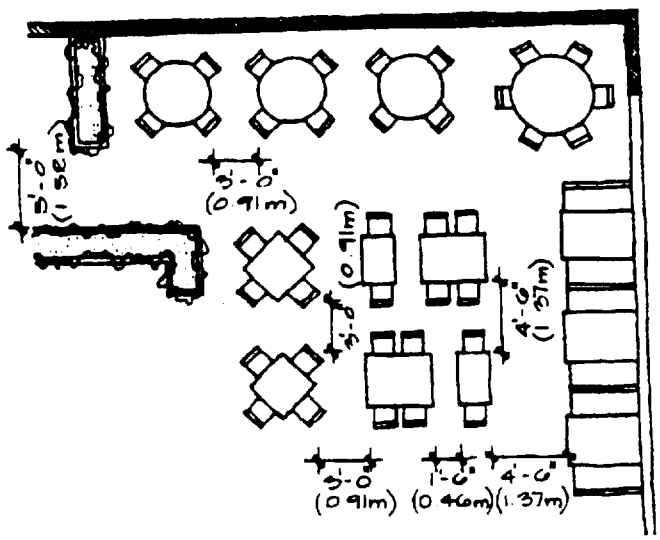


ELEVATION



ELEVATION

8a. Waiter Station & Side Stands: Illustrative Designs



8b. Dining Room: Table Spacing

Title	Date	Category Code	Plate
DINING AREA: ILLUSTRATIVE DESIGNS AND CRITICAL DIMENSIONS	March 1987	740 Series	8

4.2.3.1 Lighting. Suitable patio lighting and waterproof receptacles shall be provided. Outdoor hose bibbs shall also be provided.

4.2.3.2 Surfaces. Surface materials for the dining patio shall be durable, weather resistant, and compatible with the building materials used for the facility exterior: for example, brick, stone or concrete pavers or wood decking for floors, masonry for walls, metal or wood for railings, trellises, etc., and canvas for awnings.

4.3 Lounge Area

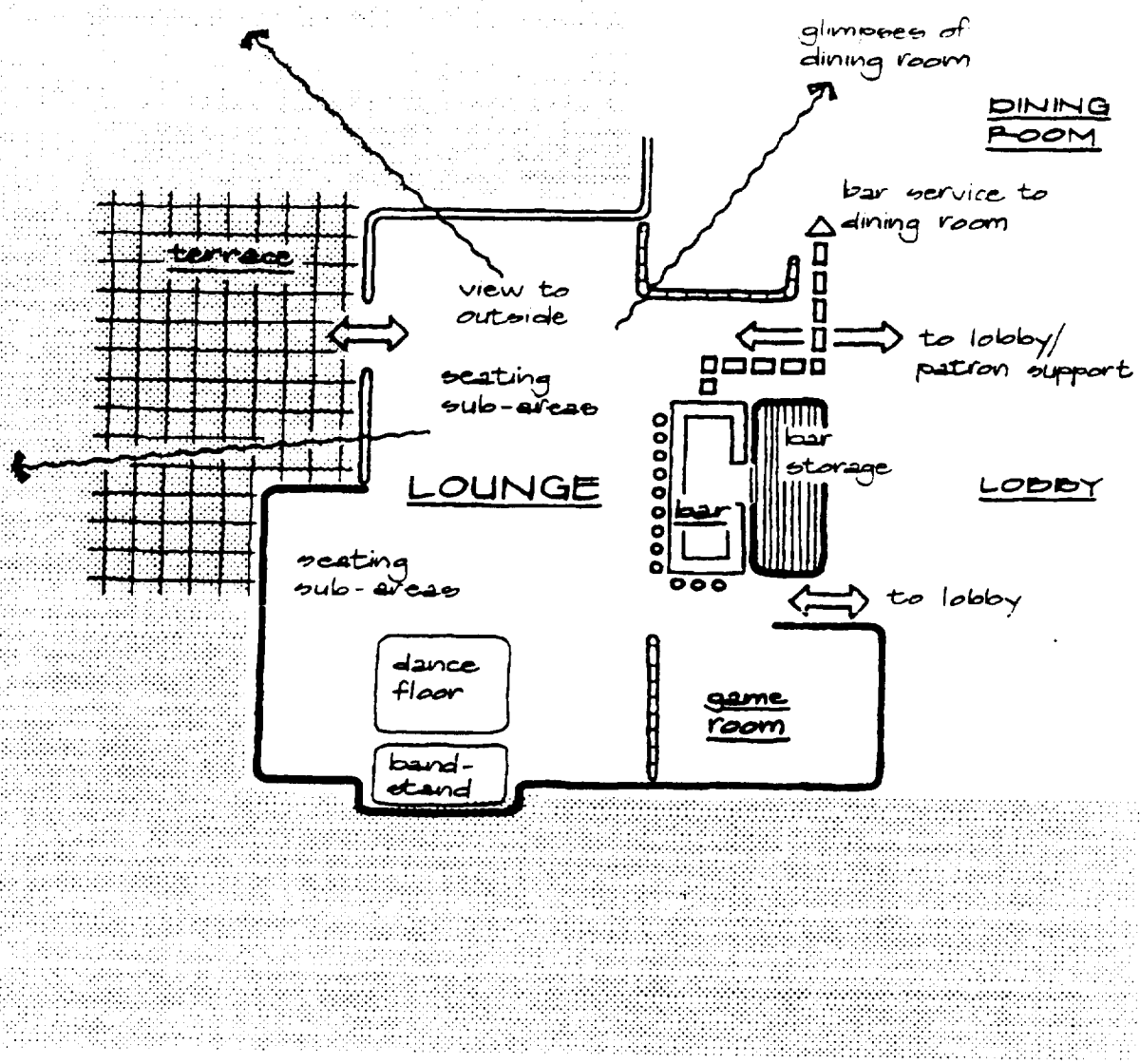
4.3.1 Primary Design Considerations

4.3.1.1 Use and Performance. The lounge area consists of a lounge, bar, and frequently a separate game room, or alcove. This activity area is used for full alcoholic and nonalcoholic beverage service, including both bar and waitress service, limited food service, socializing, entertainment, dancing, games, and waiting for dining room seating. Lounges should be inviting for the solitary individual as well as the large group. Separate nonalcoholic activity areas may be provided for underage users, especially in enlisted messes.

In a simple consolidated mess, lounge areas may be shared by personnel of two or more rank categories. Separate lounge areas should be provided for each rank category accommodated in a collocated consolidated mess. Degrees of sharing and separation of lounge areas shall be at the discretion of local commands.

4.3.1.2 Space Organization and Character. Lounge areas should be designed to be equally suitable for quiet relaxation or activity and excitement. The lounge area should be directly accessible and visible from the lobby. Rest rooms should be located within close proximity of the lounge area. The lounge and bar should be adjacent to or close to the dining room. Glimpses of the dining activity should be available from the lounge. Convenient service access for beverage service from the bar to the dining room should be provided. Nonalcoholic activity areas should be removed from the vicinity of the bar and may be located closer to fast food areas, when fast food areas are included in the facility (see Plate 9 for lounge area space relationships).

A variety of both open and intimate subspaces should be created in larger lounges. Architectural features such as low level partitions, decorative screens, level changes, varied ceiling heights, columns, plants, etc., may be used to create such subspaces. Seating arrangements should be flexible and serve patron parties in combinations of twos, fours, and sixes. The bar shall be located within the lounge and designed as a focal point. The bar design may incorporate special lighting and materials, attractive forms, decorative nautical motifs, patron symbols and permanent displays. Bar storage shall be secure including ceiling installations, and hold beverage products at the correct temperatures in sufficient quantities to meet daily demand. The lounge terrace should be located adjacent to the lounge with direct patron and service access to permit outdoor lounge activities during fair weather conditions.



Title	Date	Category Code	Plate
LOUNGE AREA: SPACE RELATIONSHIPS	March 1987	740 Series	9

Games such as darts, billiards, video games, backgammon, and shuffle board may be located in an alcove off the lounge or in a separate game room directly accessible from the lounge. The games area should be located very close to, or overlap with, the bar, allowing the possibility of beverage service in the game room. The interior design character of game rooms should be decidedly cheerful and informal.

Where not in violation of U.S. laws, status of forces or local agreements, slot machine rooms may only be provided in Navy bases overseas. The operation of slot machines shall comply fully with BUPERS Instruction 10150.2C, Slot Machine Operations, July 1975.

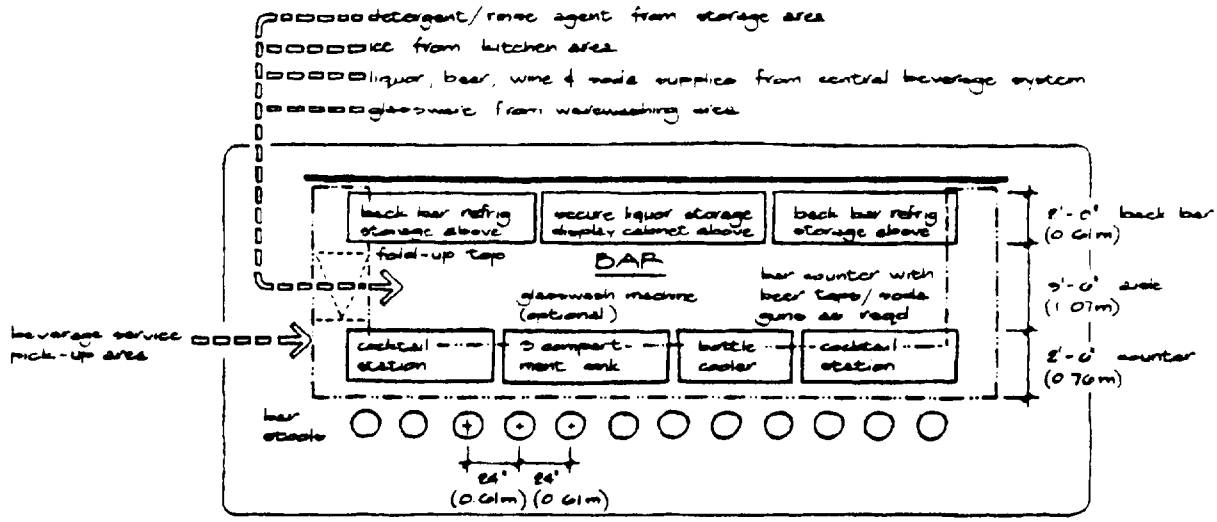
4.3.2 Lounge Subareas. Lounge. For planning purposes, a space factor in the range of 15 to 18 net ft^2 (1.39 to 1.67 net m^2) per seat, including bar, dance floor and bandstand, shall be used. Critical dimensions for lounge furniture spacing and circulation aisles shall conform to normally accepted professional standards.

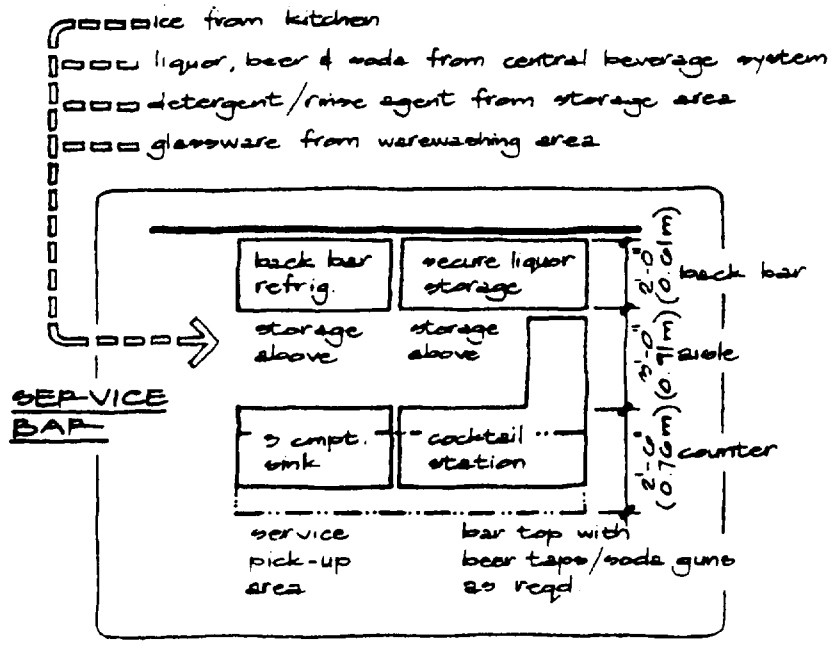
4.3.2.1 Furnishings. Typically, lounge furnishings and equipment shall include: tables (square, rectangular or circular), chairs, banquettes, booths, television sets, dance floor, and bandstand.

4.3.2.2 Lighting. Lighting shall be coordinated with seating patterns and provided with dimmer controls. Specialized lighting such as track lights, recessed spots, etc., shall be provided as required to enhance the activities on the dance floor and bandstand. Electrical outlets shall be provided at the bandstand. Windows and skylights should be designed to minimize daytime glare. Refer to para. 4.2.2, for design criteria for surface materials applicable to the lounge.

4.3.3 Lounge Subareas. Bar. The bar shall be designed with a counter and tiered back bar, and provided with an attractively designed security screen. Bar stools shall be provided at the bar counter. A bar counter length of 2 ft (0.61 m) should be provided for each bar stool. A television set, readily visible to patrons seated at the bar counter, should be mounted in the bar. See Plate 10 for layout and critical dimensions.

4.3.3.1 Materials. Surface materials for the bar area shall be durable, water resistant and comfortable, and should complement the interior design character of the overall lounge area, while drawing attention to the bar as the focal point: for example, nonskid (15 percent abrasive) quarry tile or ceramic tile, VAT, or similar material for floors; wood for the bar counter and back bar.





Title	Date	Category Code	Plate
BAR AND SERVICE BAR: LAYOUTS AND CRITICAL DIMENSIONS	March 1987	740 Series	10

4.3.3.2 Equipment. Bar items shall be provided as specified by mess management and may typically include the following equipment:

- slush machine
- three compartment glass washing sink
- light and music control station
- VCR equipment
- speed rails
- ice storage
- glass storage display racks/shelves
- soft drink dispensing system
- beer dispensing system
- back bar refrigerators
- beverage mixer
- glass transport racks
- wine storage: ambient/ refrigerated
- wet waste sink
- drainboards
- hand sink
- coffee warmer
- espresso machine
- glass washing machine
- precheck/cash register
- precheck machine
- froster
- liquor dispensing system
- blender
- counter
- trash receptacle
- microwave
- impervious cutting board nonwooden type
- hot dog warmer
- popcorn machine

The above equipment may be furnished by either the government or the contractor. All equipment shall be installed by the contractor.

4.3.4 Lounge Subareas, Game Room. The equivalent of 30 to 50 percent of the net total floor area of the lounge should be allocated for a game room. Space sizes shall meet standard requirements for the games, equipment and furniture to be accommodated and room sizing shall be designed to minimize possible damage to walls and ceilings by players.

4.3.4.1 Furnishings. Furnishings such as tables, chairs, lounge stools, etc. should be similar to those provided in the lounge. Equipment provided in the game room may include electronic games, pool/billiard tables, billiard stick holders, dart boards, shuffle boards and televisions sets, wall-mounted smoking urns and drink rails, as may be required.

Electrical outlets and television cable or antenna connection should be provided as required. Lighting shall be designed to complement Game room activities.

4.3.5 Lounge Subareas, Bar Storage. An area equivalent to 7 to 10 percent of the net floor area of the lounge shall be allocated for bar storage. Refrigerated storage shall be provided for beer and wine, consisting of either a walk in refrigerator or refrigerated cabinets. Equipment shall include metal shelving and dunnage racks.

4.3.6 Lounge Subareas, Lounge Terrace. The lounge terrace shall be provided with attractive and durable garden furniture items such as tables with umbrella attachments, chairs and benches. Refer to para. 4.2.3 for other design criteria applicable to lounge terraces.

4.4 Multipurpose Area, Primary Design Considerations

4.4.1 Use and Performance. The multipurpose area should consist of a function room, service bar and function room storage space. The activities and events to be accommodated include banquets, full service dining, buffet style dining, balls, dances, receptions, parties, performances, games (such as bingo, bridge, etc.), meetings and official ceremonial functions, and dining room overflow. Both large and small gatherings should be accommodated comfortably, and several smaller events may take place simultaneously. If possible, the option to combine the function room and dining room should be provided.

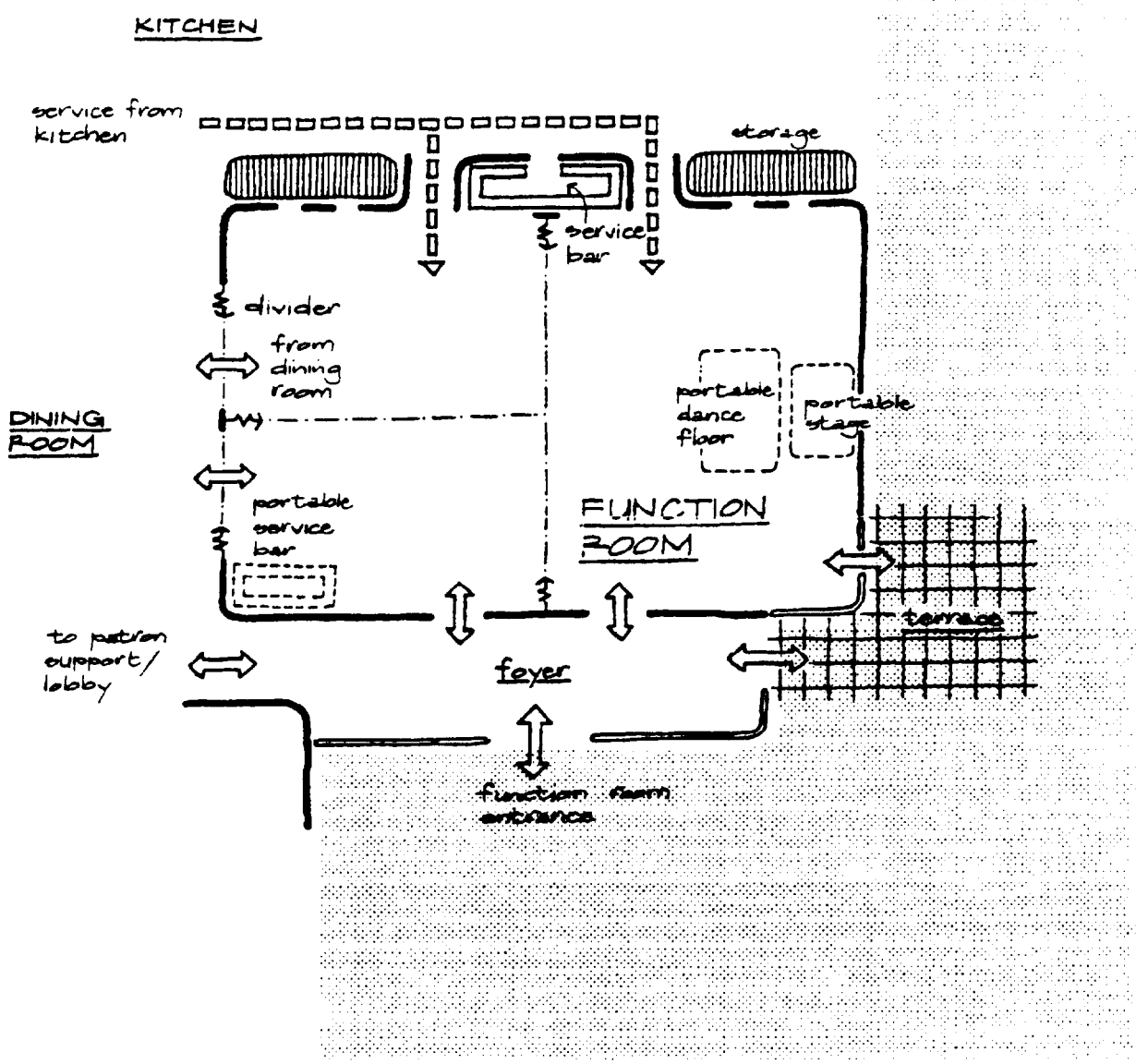
In smaller messes the multipurpose area may be combined with the dining area. In consolidated messes, usually a single multipurpose area is shared by all ranks of personnel accommodated in the facility. In collocated consolidated messes, not all rank categories may be able to have direct access to the multipurpose area from their own patron use portions, except by going through another rank group area or outside (see Plate 27 for one possible solution). This access conflict may be best solved for all rank groups by placing the function room on a second level.

4.4.2 Space Organization and Character. In larger messes, in addition to being accessible from the lobby/circulation, function rooms shall be provided. A foyer may be provided at the function room entry to handle large numbers of patrons before and after activities. In messes where the function room is located at some distance from other patron areas, it may be desirable to provide additional toilets and a coat room adjoining the foyer to serve function room users. A function terrace should be located adjacent to, and directly accessible from, the function room, and should be designed to permit outdoor social events during good weather. See Plate 11 for multipurpose area space relationships.

4.4.2.1 Function Room. The function room shall be located within close proximity of the kitchen area with direct service access. If the function room is not directly accessible from the kitchen area, a service kitchen adjacent to the function room shall be provided. A permanent service bar should be designed adjacent to the function room. Additional portable service bars may be required for certain functions, in various possible locations within the function room.

The function room should have no columns, a high ceiling, and be designed for maximum use flexibility. To accommodate functions with different patron group sizes, and possibly two or three simultaneous events, the room should be subdividable. Soundproof, movable partitions should be used to create a variety of different sized spaces. The subdivision configuration should allow direct patron and service access to all sections without crossing through other sections.

The function room shall be designed to accommodate a portable stage and dance floor. The stage and dance floor should be able to function in different locations within the room. One primary stage location should be provided. For use flexibility, ample storage space adjoining the function room should be provided for storing furniture equipment, portable dance floor and stage, etc.



Title	Date	Category Code	Plate
MULTIPURPOSE AREA: SPACE RELATIONSHIPS	March 1987	740 Series	11

4.4.2.2 Service Bar. The service bar shall be located close to service access from the kitchen area. It shall be convenient for patron access from the entire function room. If the service bar is not accessible to all sections of the function room when subdivided, portable bars may be used.

4.5 Multipurpose Area, Multipurpose Subareas

4.5.1 Function Room. For planning and programming purposes, a space factor in the range of 10 to 12 net ft^2 per seat (0.93 to 1.11 net m^2) should be used. The length of the function room shall not be greater than twice its width.

4.5.1.1 Furnishings and Equipment. Typically, function room furnishings and equipment shall include the following: folding or stackable chairs and tables, portable or retractable stage, movable walls and partitions, movie screen, portable dance floor, podium, and blinds and drapes.

4.5.1.2 HVAC, Lighting and Controls. HVAC and lighting systems and controls shall be designed to accommodate both open and subdivided function room settings. Lighting shall have dimmer controls.

A sectional, portable stage, not less than two steps or approximately 16 in. (406.4 mm) above general floor level, should be provided. Overhead track lighting with dedicated dimmer controls, convenience outlets and microphone locations shall be provided at likely stage locations within the function room. Modular, portable, hardwood dance floor units should be provided. A local public address and music reinforcement system should be provided. This system should include amplifier cabinet, microphone outlets, speakers, and input facilities for a phonograph, tape deck, VCR equipment and projector. Electric floor outlets shall be provided in convenient locations throughout the function room for portable equipment.

Surface materials for the function room should be durable, maintenance-free, comfortable, and complementary to the interior design character of the space: for example, static control carpet for floors; tackable materials (for mounting decorations) such as vinyl covered gypsum wallboard for walls; sound absorbing materials such as acoustic tiles for ceilings.

4.5.2 Service Bar. The service bar shall be designed with a counter, for either waiter service or patron service at the bar, and provided with an attractively designed security screen. Service bar equipment shall be provided as specified by mess management, and may typically include the following items:

- precheck/cash register
- soft drink dispensing system
- beer dispenser
- froster
- speed rails
- glass storage/display racks/shelves
- ice storage
- glass washer and three compartment sink
- hand sink
- slush machine
- liquor dispensing system
- trash receptacle

The above equipment may be furnished by either the government or the contractor. All equipment shall be installed by the contractor. See Plate 10 for illustrative service bar layout and critical dimensions.

The design criteria applicable to surface materials for the service bar area are contained in para. 4.3.3.

4.5.3 Function Room Storage. An area equivalent to 10 to 15 percent of the net floor area of the function room should be allocated for function room storage. This storage should be accessible through double doors directly from the function room for easy movement of large furnishings and equipment.

4.5.4 Foyer. The equivalent of 20 to 30 percent of the net floor area of the function room should be allocated for the foyer, in situations where this space is required.

4.5.5 Outdoor Function Terrace. The size of this area shall be between 50 to 100 percent of the net floor area of the function room. Refer to para. 4.2.3 for other design criteria applicable to the outdoor function terrace.

4.6 Fast Food Area

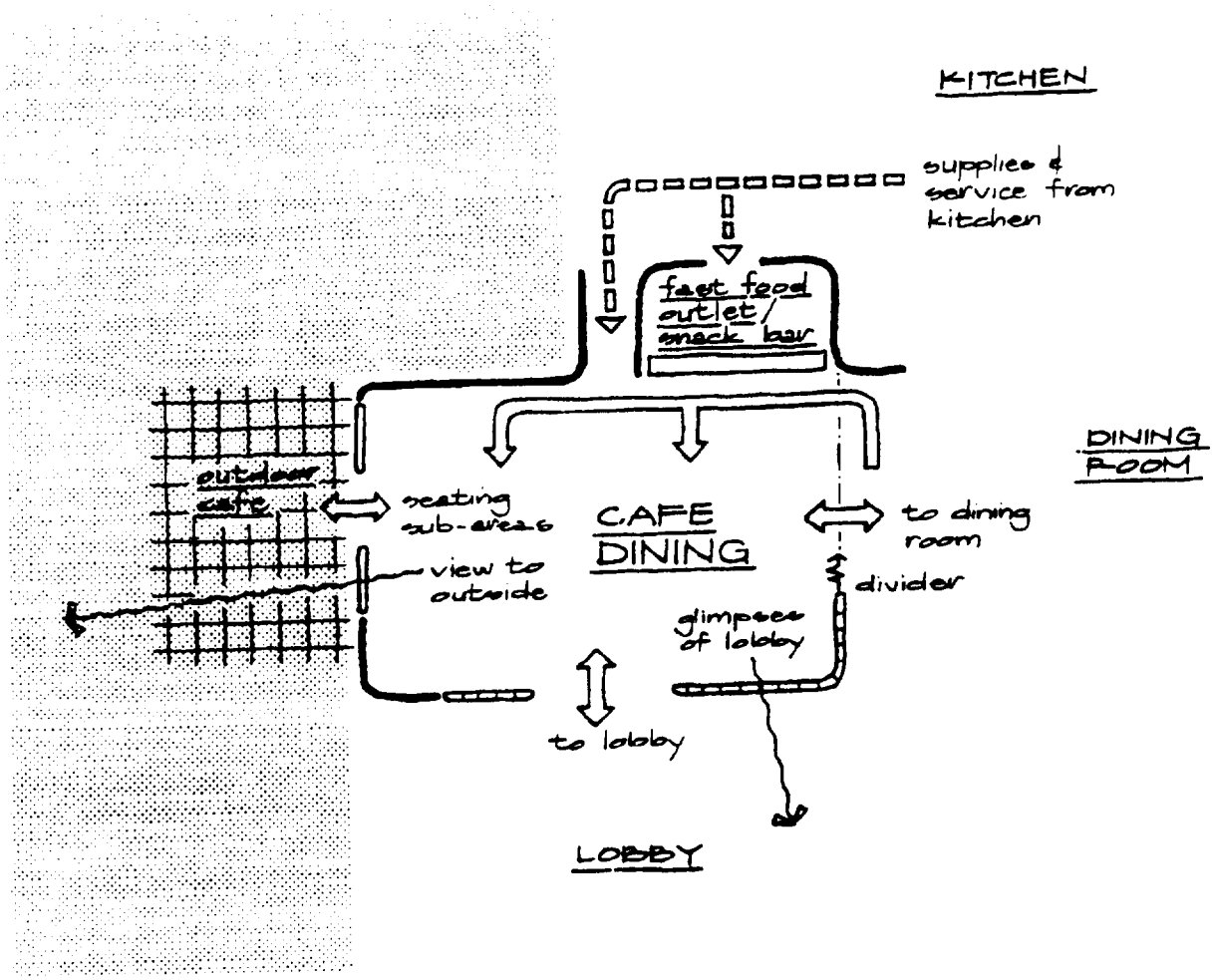
4.6.1 Primary Design Considerations

4.6.1.1 Use and Performance. This area shall be designed to provide fast food/snack bar counter type food service, for such items as sandwiches, salads, soups, deli items, beverages and desserts. Takeout food service may also be included. Where justified by user demand, a separate ice cream bar may be provided. Generally, fast food areas are most popular with enlisted personnel.

The fast food service operation shall be self-contained. It shall be possible to operate the fast food area independently with minimum staff when the main kitchen is closed. A typical fast food area should consist of a food preparation and serving area, a cafe dining area, related storage space, and an outdoor cafe.

4.6.1.2 Space Organization and Character. Fast food areas should usually be included in enlisted messes. In consolidated messes, fast food areas shall be located adjacent to the enlisted portion of the facility, but designed to be accessible to other ranks. Space for cafe dining may overlap with, or be a part of, a regular dining room (refer to para. 4.2) in a mess facility. The outdoor cafe may be similarly related to the dining patio (refer to para. 4.2). The outdoor cafe should be visible and directly accessible from the cafe dining area which should adjoin the fast food outlet/snack bar. See Plate 12 for fast food area space relationships.

Patron access to the serving area counter should bypass the cafe dining area. Direct service access to the food preparation area of the snack bar should be provided from the kitchen storage and receiving areas. The architectural and interior design character of the fast food area should be bright, cheerful and informal.



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FAST FOOD AREA: SPACE RELATIONSHIPS	March 1987	740 Series	12

4.6.2 Fast Food Subareas

4.6.2.1 Cafe Dining. Design considerations and space criteria for this area should be similar to those for the dining room (refer to para. 4.2.2). Cafe dining, if provided as a separate area, need not be designed and furnished to accommodate waiter service. The style of furnishings and finishes shall be informal, durable and easily maintained.

4.6.2.2 Fast Food Outlet/Snack Bar. For planning and programming purposes, this area shall be 50 to 80 percent of the net floor area allocated to patron seating served by this food outlet. See Plate 13 for an example layout and critical dimensions.

The serving counter, sized to accommodate estimated peak demand, shall be provided with cash registers at the end of the serving line. Typically, kitchen equipment provided for this area includes: grill, fryer, sandwich unit, microwave oven, refrigerators, freezers, wrap/assemble station, heat lamps, ice cream equipment and full complement of beverage equipment. All equipment should be National Sanitation Foundation (NSF) approved or equivalent. Floor finish should be water-resistant, nonskid (15 percent abrasive) materials such as quarry tile, ceramic tile or VAT.

4.6.2.3 Ice Cream Bar. A separate ice cream bar may be provided in large messes. Equipment and furnishings in this area should typically include the following: 10° F (-12.2° C) freezer, three-compartment sink, limited complement of beverage equipment, shelving, storage cabinets, ice cream equipment, and ice cream display cabinet. Limited counter seating or a full seating area may be provided, or may be accommodated by cafe dining or dining room seating. Floor finish should be water-resistant, nonskid (15 percent abrasive) materials such as quarry tile, ceramic tile or VAT.

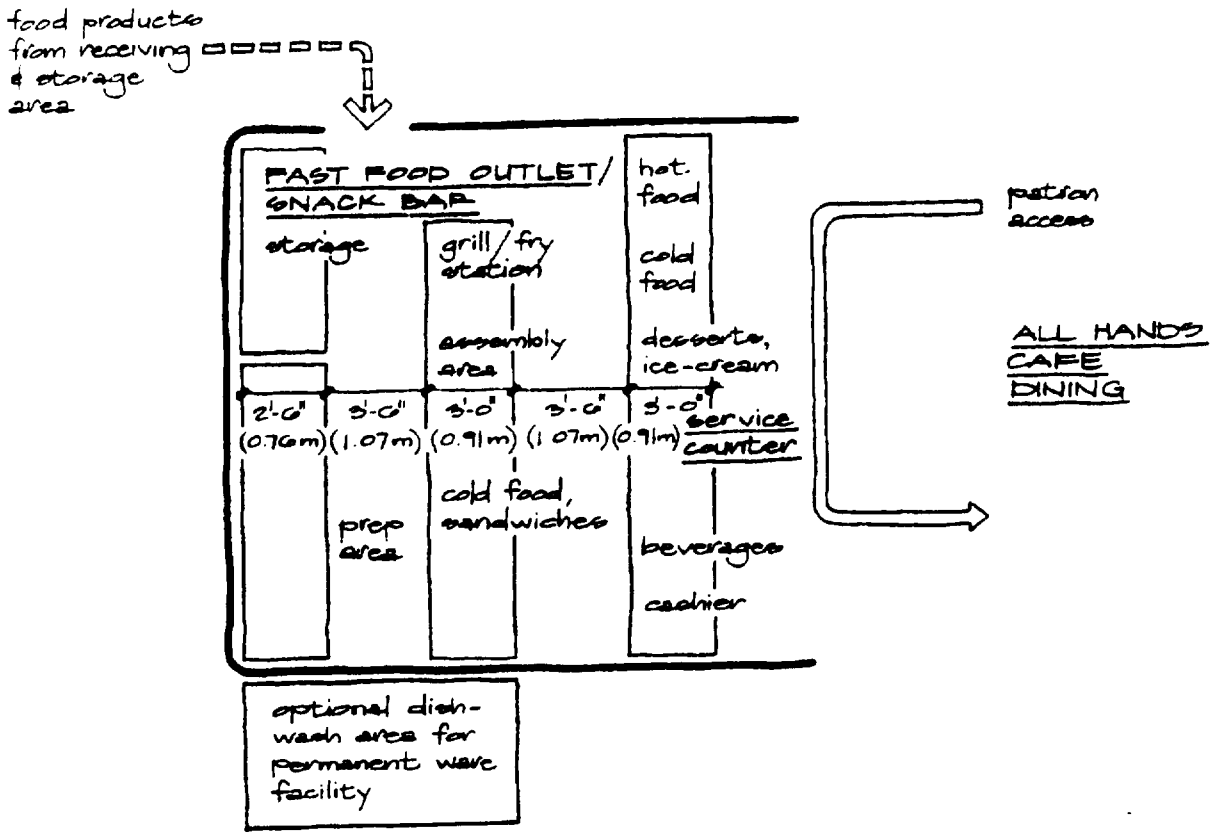
4.6.2.4 Storage. The fast food area shall be provided with appropriately equipped dry and refrigerated storage for stocking supplies and packaged food items for daily use.

4.6.2.5 Outdoor Cafe. This area shall be provided with attractive and durable garden furniture items such as tables with umbrella attachments, chairs and benches. Refer to para. 4.2.3 for design criteria applicable to outdoor cafes.

4.7 Patron Support Area, Primary Design Considerations

4.7.1 Use and Performance. The patron support area shall provide support services for patrons and include: entrance/drop off, lobby/circulation, coat room, toilets and front desk/control point.

4.7.1.1 Lobby. The lobby shall be designed as the primary reception area of the facility and accommodate activities such as waiting for and meeting patrons, orientation and access to other patron support spaces and mess activity areas. Supervision of the entrance and lobby areas and the access to the activity areas shall be possible from a staffed desk in or adjacent to the lobby. Patron information and the sale of convenience items (cigarettes, candy, sundries) may be provided from the control desk.



Title	Date	Category Code	Plate
FAST FOOD AREA: EXAMPLE LAYOUT AND CRITICAL DIMENSIONS	March 1987	740 Series	13

4.7.1.2 Coat Room. A coat room shall be provided for patron storage of outerwear, umbrellas, etc. The coat room may be staffed at heavy use times; otherwise, coat storage may be self-service.

4.7.1.3 Toilets. Toilets shall be provided for public use, accessible by the handicapped, with vending machines and pay telephones nearby.

4.7.2 Space Organization and Character. The main entrance/drop off shall be prominently positioned and designed to command the attention of arriving patrons, celebrate the sense of arrival, and invite them into the facility. Some form of a canopy shall be provided over the drop off area to shelter patrons disembarking from or boarding vehicles.

The lobby is the first space encountered by a patron. It shall provide a clear and substantial indication of the overall character of the mess facility. Comfortable and attractive seating areas shall be located out of the path of normal patron traffic. To monitor patron traffic and provide information, a front desk/control point shall be located near the lobby entry with clear views of the whole lobby and access to the major activity areas, and, preferably, the drop off area as well. The front desk/control point should also adjoin the administration area for staffing efficiency. See Plate 14 for patron support area space relationships.

4.7.2.1 Lobby/Circulation. The lobby/circulation area shall be located to provide patrons with orientation and access to the major patron activity areas. Restrooms shall be directly accessible from the lobby/circulation area, and located within close proximity of the dining, lounge and multipurpose areas. Long, blank circulation corridors should be avoided by providing directional shifts, visibility of the outdoors, glimpses of patron activity areas, alcoves with seating and plantings, and variation in dimensions and design detail.

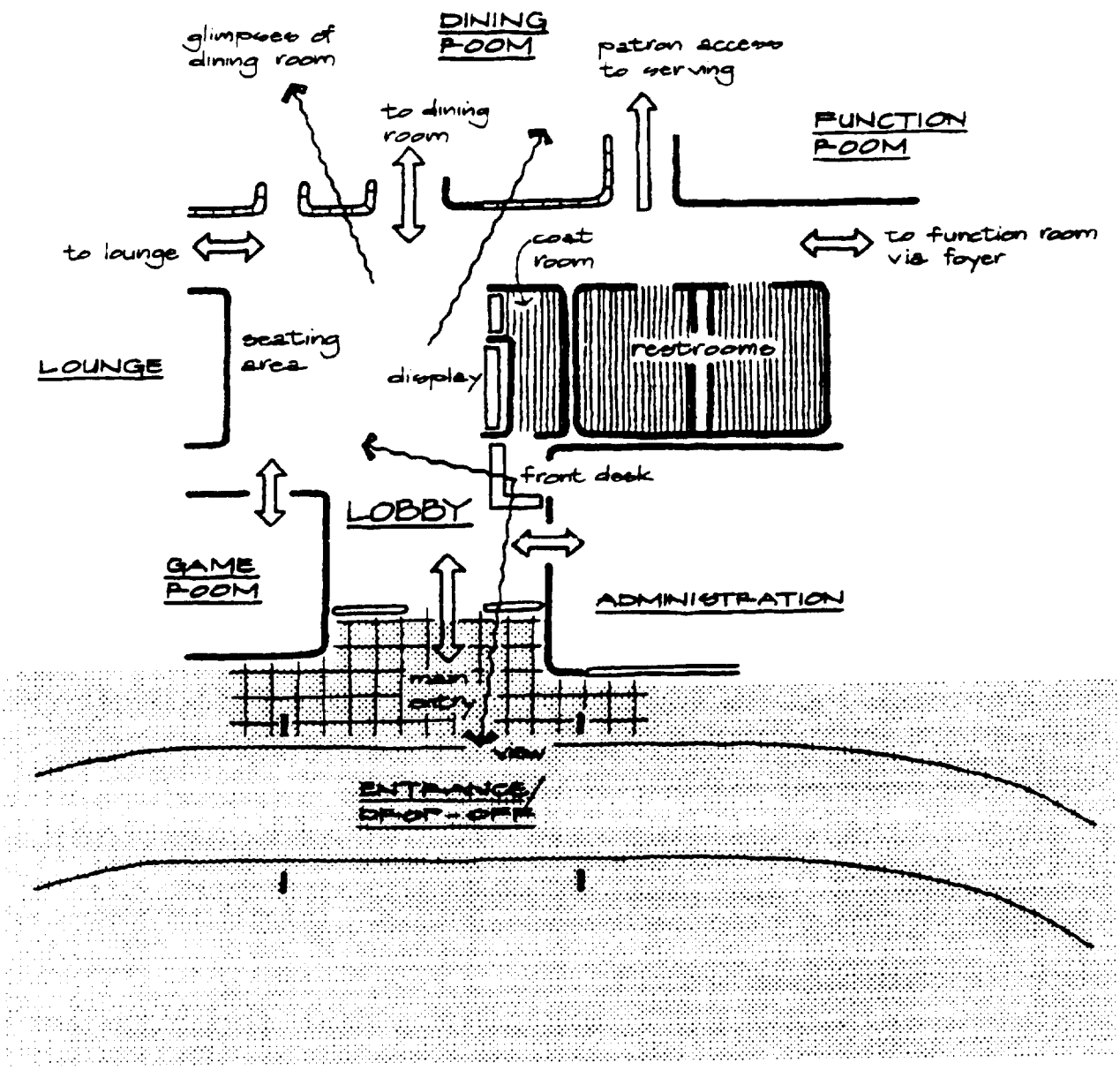
4.7.2.2 Coat Room. The coat room shall adjoin the lobby in a position that prevents patrons lining up during busy periods from creating a circulation bottleneck or blocking access to other areas. Doors to the coat room shall allow for patron self-service during low use periods.

Separate, self-contained patron support areas, with all component subareas, should be provided for each rank category accommodated in a collocated consolidated mess. Staff access only should be provided between patron support areas in different portions of a collocated consolidated mess facility.

4.8 Patron Support Subareas

4.8.1 Entrance/Drop Off. A porte cochere or canopy shall be provided to shelter the drop off area. The covered area shall have a height sufficient to accommodate large buses. Signage and special illumination should be provided as required. In consolidated messes, entrances reserved for specific rank categories shall be clearly identified. The entrance and the drop off shall be linked with a covered connection and provided with an airlock vestibule.

4.8.2 Lobby/Circulation. For planning and programming purposes, approximately 17 to 25 percent of the net total area of a mess facility may be allocated for this use. Single rank messes and simple consolidated messes



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PATRON SUPPORT AREA: SPACE RELATIONSHIPS	March 1987	740 Series	14

which contain a single lobby and common circulation require less area than collocated consolidated messes with separate lobbies and circulation for different rank groups.

Lobby furnishings and equipment shall include comfortable and attractive lounge furniture, display cabinets and smoking urns. Design criteria for surface materials are similar to those for the lounge (refer to para. 4.3.2.2).

4.8.3 Front Desk/Control Point. For planning purposes, approximately 50 to 100 net ft^2 (4.65 to 9.29 net m^2) should be allocated for a front desk/control point.

The front desk/control point shall include: an approximately 42 in. (1,066.8 mm) high counter with drawers and display cases; cash register, if required; microphone and controls for the central public address and sound system; attractively designed, lockable, roll down security screen; duress alarm system; and a telephone.

4.8.4 Coat Room. For planning and programming purposes, apply a space factor of 0.9 net ft^2 (0.08 net m^2) of coat room space per seat for every seat in the largest activity room within a facility. Coat hanging racks are 12 to 24 in. (305 to 610 mm) wide and should have a minimum of 3 ft (0.914 m) aisle width between them. An average of about 5 garments can be hung per linear ft (0.305 m) of hanging rack. Cold climate locations may require more coat storage area than warm climate locations.

Furnishings and equipment in this area should include: coat racks; shelves for hats, overshoes, etc.; umbrella racks; check-in/out counter with drawers; and an attractively designed, lockable roll down screen or similar device.

4.8.5 Toilets. The number of toilet fixtures shall be in accordance with criteria in MIL-HDBK-1190. For planning and programming purposes, allow 50 net ft^2 (4.65 net m^2) for every 50 patron seats, or part thereof, within the facility. All critical dimensions shall conform to handicap access requirements.

All equipment shall be sturdy, attractive and maintenance free. Wherever possible, wall-hung toilet bowls and urinals, and ceiling- and wall-hung toilet room dividers, should be used to facilitate cleaning of floors. Mirrors should be very well lit with incandescent lighting. Hat hooks shall be provided next to mirrors. Drinking fountains should be located outside but close to toilets. Surface materials shall be durable, water resistant, nonskid (15 percent abrasive), easily cleaned, and attractive in appearance.

4.9 Administration Area, Primary Design Considerations

4.9.1 Use and Performance. Facility management and administrative personnel and support staff should be accommodated in suitable office space. The office requirements shall be based on local command needs. Administration functions include the following: overall facility management; personnel management; bookkeeping and cashier operations; food and beverage service management; functions management; and secretarial support. Administrative personnel positions may include: manager, assistant manager, bookkeeper/cashier, banquet or catering manager, bar/staff foreman, night

manager, and secretary. Larger facilities may require more administrative personnel. Fewer personnel may be able to handle management responsibilities in a small mess. One set of administrative personnel shall manage all segments of a consolidated mess.

4.9.2 Space Organization and Character. The administration area should be close to the main entry and adjacent to the lobby. Direct access to the administration area should be provided from the lobby. See Plate 15 for administration area space relationships.

All mess facilities shall be provided with a single administration area. Single rank and simple consolidated messes shall have the administration area adjoining the lobby at the main entry. The administration area in collocated consolidated messes shall be adjacent to the lobby of the officer portion of the facility.

4.9.2.1 Personnel Furnishings. Administrative personnel may be provided with individual office or shared office space. Individual offices may be created by using a variety of glazed or solid partitions. Furnishings may be used to define work stations within shared office space. The office of bookkeeper/cashier shall be enclosed, lockable and secure, and should contain a funds storage vault.

4.9.2.2 Light. The administration area shall be provided with natural light and visibility of the outdoors, unless site conditions, climate or other circumstances make this undesirable.

4.10 Administration Subareas

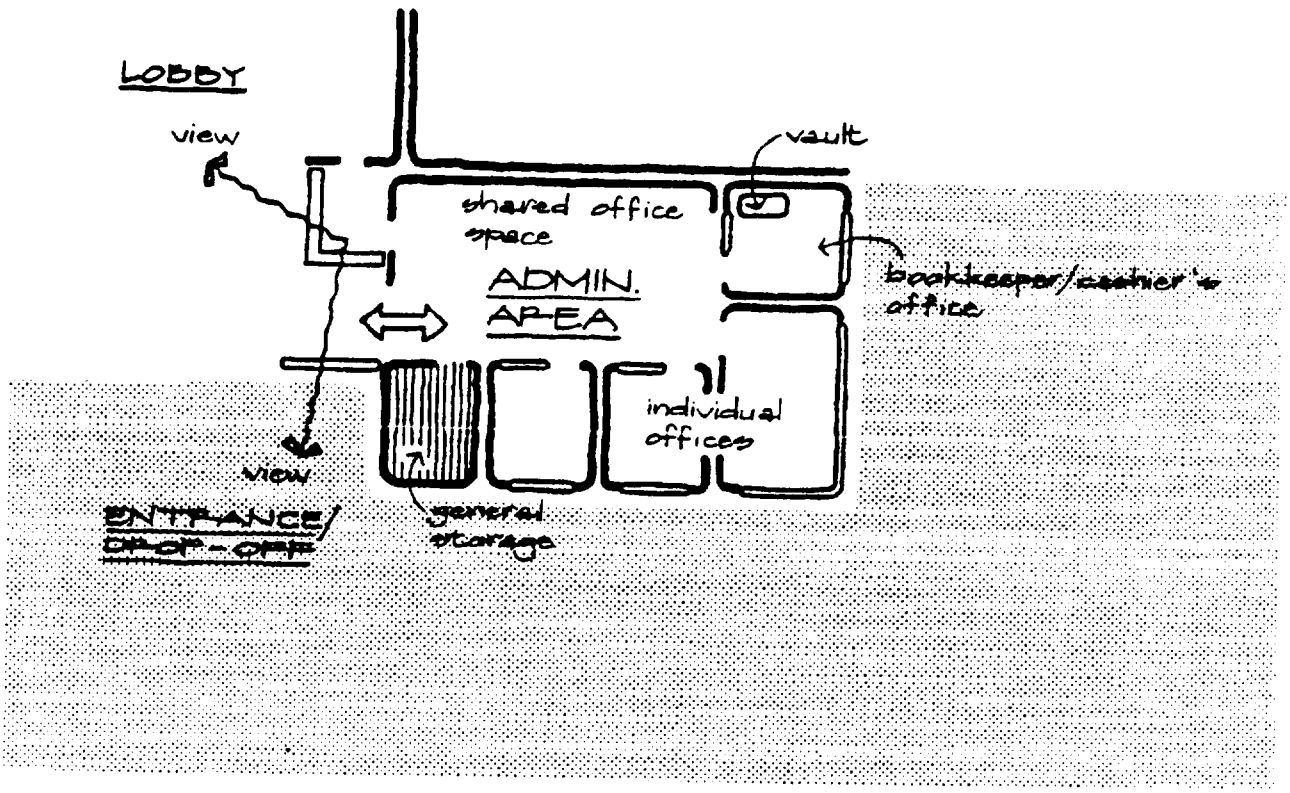
4.10.1 Individual Offices. The size of individual offices for senior staff shall be approx. 100 to 150 net ft^2 (9.29 to 13.94 net m^2) per person.

An individual office should be provided with the following furnishings and equipment: an office desk, chairs, filing cabinets, shelves, computer terminal, telephone and intercom. The office of bookkeeper/cashier shall be provided with a funds storage vault incorporating an intrusion alarm system in accordance with NAVFAC standards. The office of bookkeeper/cashier shall also be equipped with a duress alarm system. Proper power supply shall be provided for current and future equipment needs.

4.10.2 Shared Office Space. Shared office space shall be sized at approx. 60 to 90 net ft^2 (5.57 to 8.36 net m^2) per person.

Furnishings and equipment in shared offices should include: office desks, chairs, lounge chairs for the waiting area, shelves, file cabinets, telephones, computer terminals, intercoms and photocopiers. Proper power supply shall be provided for initial and anticipated office equipment.

4.10.3 Storage. Each administration area shall be provided with approx. 70 to 150 net ft^2 (6.5 to 13.94 net m^2) of general storage space for office supplies, selected mess activities equipment, etc.



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4.11 Kitchen Area, Primary Design Considerations

4.11.1 Use and Performance. The kitchen area shall be comprised of a set of distinct but integrated spaces, each satisfying specific food service needs. The spaces shall be properly equipped and designed to accommodate the functions outlined below. Consideration shall be given to incorporating utility distribution systems into the overall design of the kitchen area (see Plate 16 for kitchen area flow diagram):

a) Preparation - complete facilities shall be provided for hot and cold food preparation for the full range of menus projected in the operational concept for the individual mess.

b) Service - provide for the full range of service styles anticipated for the mess operation (self-service, buffet, waiter service, banquet catering, etc.) for activities in the dining room, function room, or outdoor terraces. Food shall be suitably displayed and held at the proper temperatures. Service access shall be provided for waiter pickup. Patron access and cashiering shall be available for self service situations. Table supplies and utensils shall be stored conveniently for waiter service or patron self service.

c) Storage - storage shall be provided to support food preparation, supplies, and equipment needs based on the menu requirements, kitchen operations and supply patterns of the individual mess facility. Dry storage shall be provided for nonperishable foodstuffs and a range of nonfood items such as linens, glassware and tableware. Refrigerated and frozen storage shall be provided for perishable foodstuffs. A separate area shall be provided for storing cleaning and sanitation supplies and equipment.

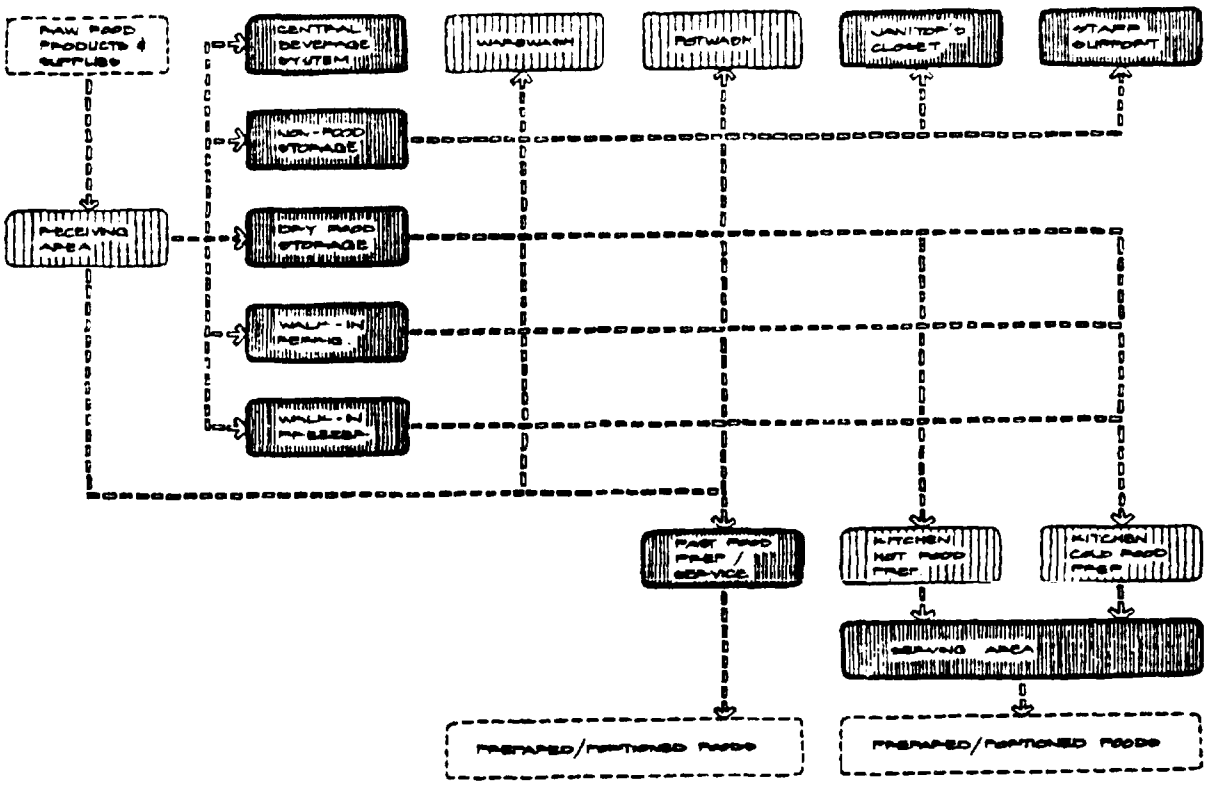
d) Warewashing and Potwashing - accommodate the washing, sanitizing and storage of glassware, tableware and utensils, and of pots, pans, racks and trays, in appropriate separate operations. Convenient service flows shall be provided from return of soiled wares and utensils to washing, and then to storage, preparation and service areas.

e) Receiving - accommodate the receiving of all supplies and deliveries to the kitchen area and to the entire mess, and the removal of trash.

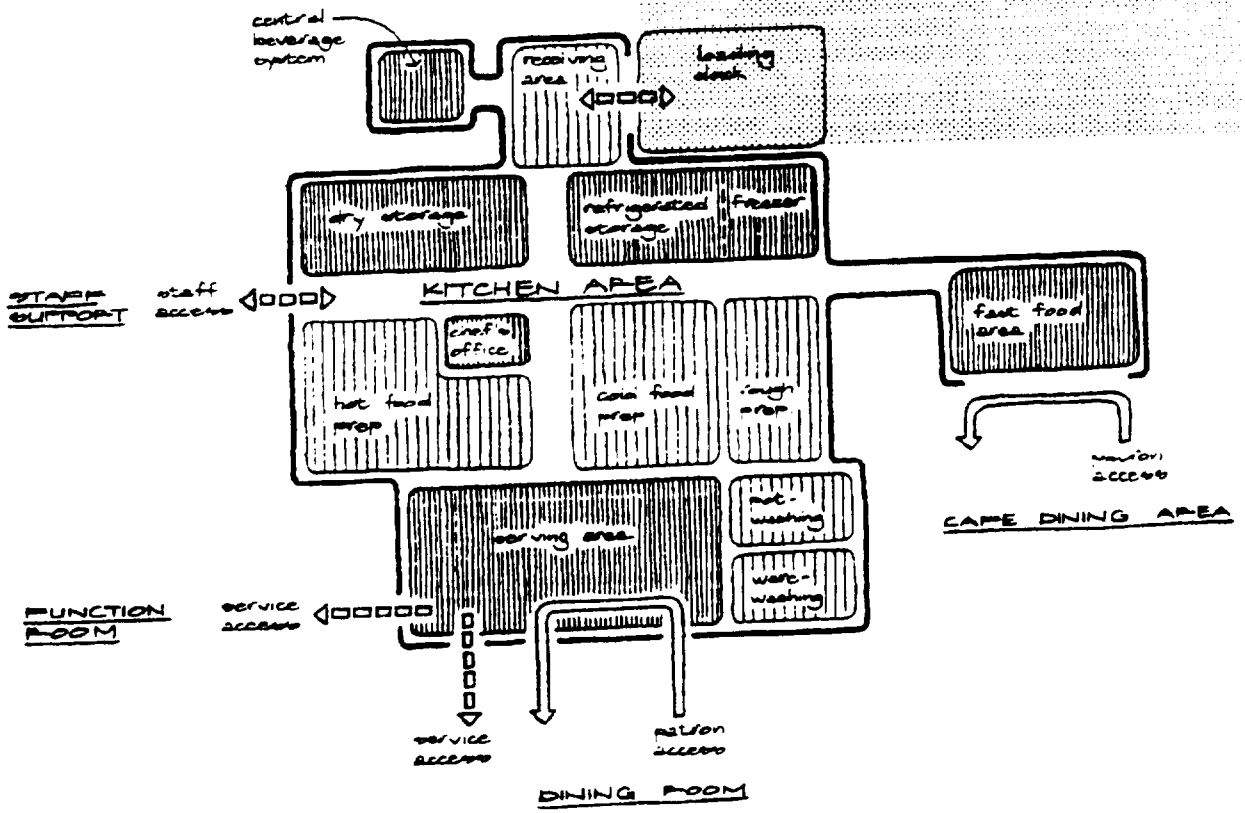
f) Kitchen Administration - provide for kitchen operations management, and supervision, in a position central to all affected functions.

g) Beverage Dispensing (optional) - accommodate centralized beverage dispensing systems and related storage, potentially for liquor, beer, wine and soda. This function may be integrated either with kitchen or bar operations.

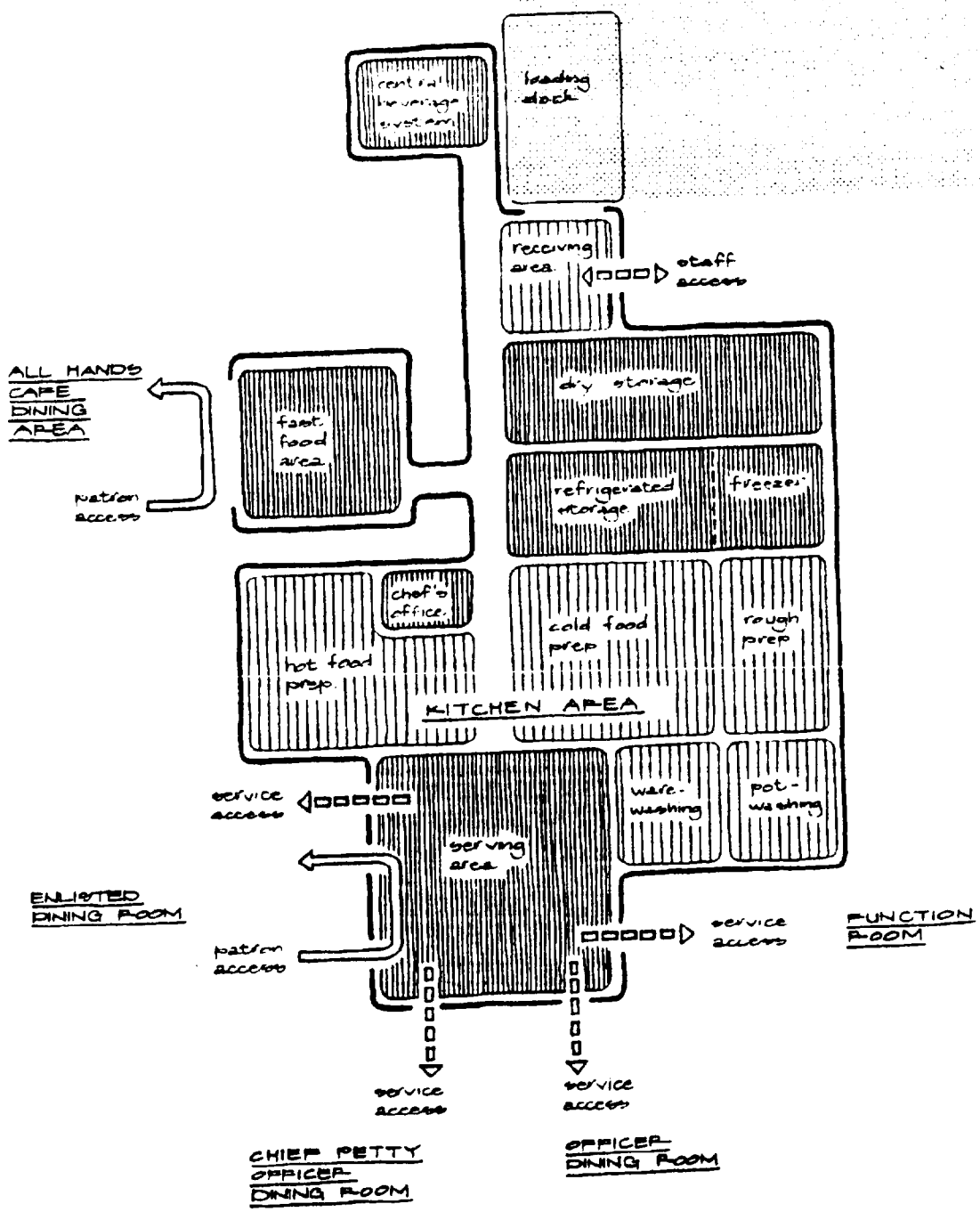
4.11.2 Space Organization and Character. The kitchen area shall be adjacent to the dining room and function room with direct service access to both. External service access to the receiving area shall be provided for deliveries and trash removal. Where cafeteria service is provided, direct patron access to the serving area, bypassing the dining room, shall be provided. See Plates 17 and 18 for kitchen area space relationships.



Title	Date	Category Code	Plate
KITCHEN AREA FLOW DIAGRAM	March 1987	740 Series	16



Title	Date	Category Code	Plate
SINGLE RANK MESS KITCHEN AREA: SPACE RELATIONSHIPS	March 1987	740 Series	17



Title	Date	Category Code	Plate
COLLOCATED CONSOLIDATED MESS KITCHEN AREA: SPACE RELATIONSHIPS	March 1987	740 Series	18

4.11.2.1 Pickup Counter. The pickup counter in the a la carte service serving area should be located adjacent and parallel to the hot and cold food preparation areas. The storage areas shall be located in close proximity to the receiving area. Both refrigerated and dry storage areas shall be adjacent to the food preparation areas.

4.11.2.2 Warewashing Area. The warewashing area shall be located adjacent to the waiter pickup station of the serving area, and close to the right-hand side of the service access from the dining room to the kitchen. For labor efficiency, the potwashing area shall be located adjacent to the warewashing area with easy access from the food preparation and serving areas.

4.11.2.3 Serving Area. The serving area shall be bright and well lit, with easy circulation flow to all display counters and services. This area shall not be visible to, or intrusive upon, patrons seated in the dining room.

4.12 Kitchen Subareas

4.12.1 Serving Area - Cafeteria Service. A self-service cafeteria line shall be equipped with some or all of the following items: tray and utensil station, specialty bar, dessert area, cold food/salad station, hot and cold sandwich station, hot food station, cold and hot beverage station, checker/cashier station, and condiment station. Specific stations shall be provided with appropriate equipment to display, prepare, and serve the full complement of hot food, cold food, and beverages. Mobile equipment shall be provided where possible. See Plate 19 for example layout diagram and critical dimensions.

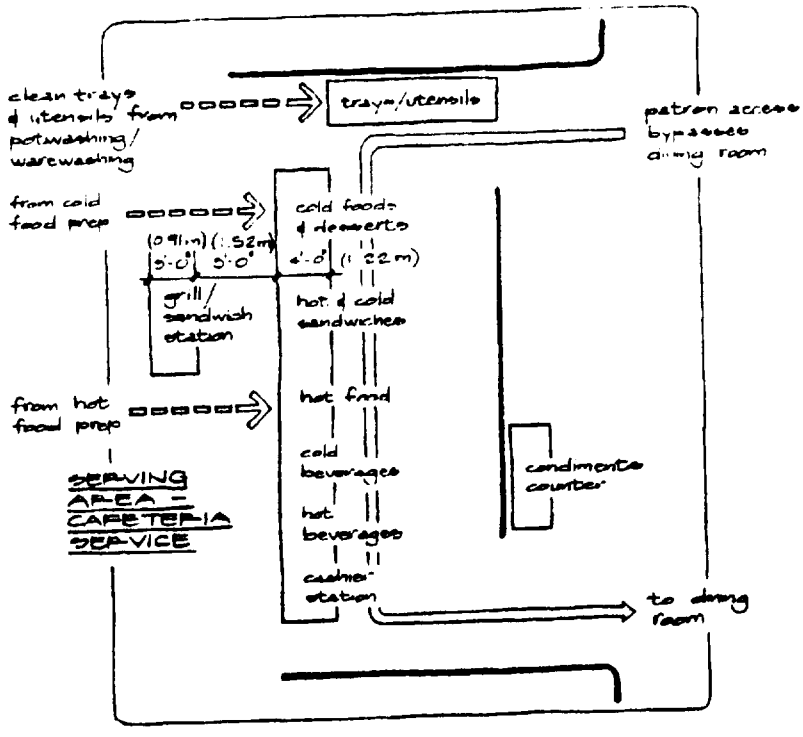
A 12 in. (304.8 mm) wide tray slide shall be provided, unless service tray being used is other than standard 14 in. x 18 in. (355.6 mm x 457.22 mm) size. All finishes shall be durable, water resistant, easily cleaned, nonskid (15 percent abrasive) materials such as quarry tile on floors and ceramic tile on walls. Stainless steel corner guards shall be provided.

4.12.2 Serving Area - A La Carte Service. The a la carte service serving area shall be provided with a pickup counter, steam tables, bain marie (a hot water bath for warming or cooking foods), and cold pan. See Plate 19 for example layout diagram and critical dimensions.

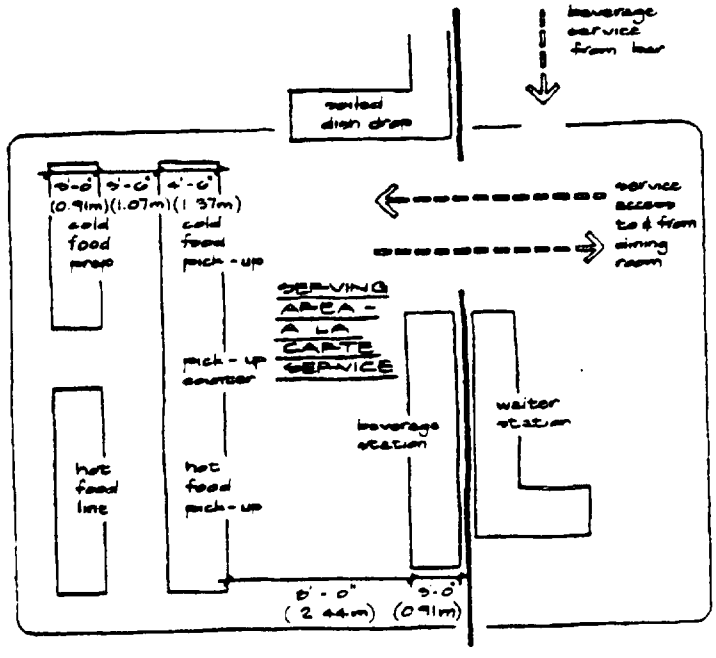
4.12.2.1 Steam. Steam shall be provided for kitchen equipment. Products held prior to plating and plates awaiting pickup shall be maintained at proper temperatures.

4.12.2.2 Pickup Counter. The pickup counter shall be located parallel to adjacent hot and cold food preparation lines. Adequate circulation should be provided for access to pickup counter by numerous service personnel. A direct exhaust shall be provided over cooking areas. Exhaust ventilators shall be provided with surface fire protection (carbon dioxide, dry chemical or water fog) over cooking areas primarily the grill station, in accord with NFPA 96. The HVAC design shall keep the serving area pressure lower than adjacent patron spaces, and higher than adjoining kitchen spaces.

4.12.2.3 Serving Counter. Each serving counter shall be equipped with its own breaker panel. Panel size shall be based on the food service equipment



19a. Serving Area - Cafeteria Service



19b. Serving Area - A La Carte Service

Title	Date	Category Code	Plate
SERVING AREAS: ILLUSTRATIVE LAYOUTS AND CRITICAL DIMENSIONS	March 1987	740 Series	19

accommodated and shall be wired to a central breaker panel. Sinks and hot food wells shall be provided with indirect wastes. Only hand sinks shall be equipped with tight wastes. Finishes shall be similar to those described in para. 4.12.1.

4.12.3 Food Preparation Area. This area may be subdivided into rough preparation, cold food preparation and hot food preparation. See Plate 20 for example layout and critical dimensions. The number of full height partitions in this area shall be kept to a minimum to allow for ease in supervision of personnel.

To facilitate cleaning, mobile equipment shall be provided where possible. Quick disconnects shall be provided to facilitate use of mobile equipment. Nonmobile equipment should be either cleanable on all sides or sealed to prevent dirt from collecting in inaccessible places. All equipment shall be NSF approved or equivalent.

4.12.3.1 Rough Preparation Area. The rough preparation area shall be equipped to handle washing, draining, chopping, grinding, and peeling.

4.12.3.2 Cold Food Preparation Area. The cold food preparation area shall be equipped to allow mixing, cutting, slicing, refrigeration, washing and plating.

4.12.3.3 Hot Food Preparation Area. The hot food preparation area shall be equipped to enable broiling, baking, sauteing, frying, steaming, boiling, mixing, microwaving, holding, and plating. When steam is used for cooking, steaming, or washing, sufficient crawl space shall be provided for condensate drainage.

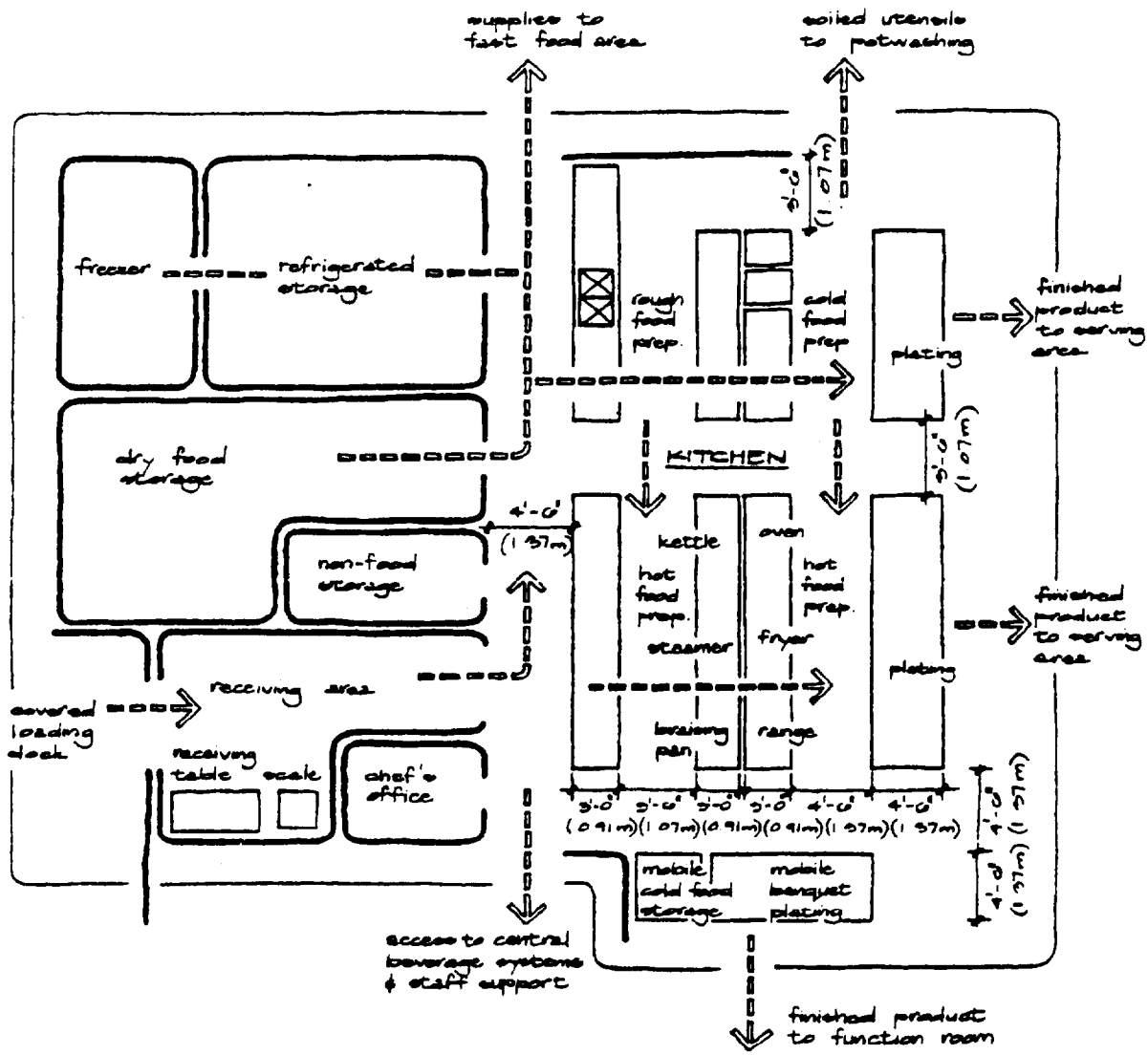
4.12.3.4 Refrigerated and Frozen Storage. Sufficient refrigerated and frozen storage shall be provided for daily food requirements.

4.12.3.5 Kitchen Exhaust. In addition to a general kitchen exhaust, direct exhausts shall be provided above cooking equipment. Energy conservative, auxiliary, front discharge, make-up air hoods should be considered. Surface fire protection (carbon dioxide, dry chemical or water fog) shall be provided over hoods in accordance with NFPA 96.

The kitchen area shall be maintained at negative pressure relative to adjacent patron areas. Make-up air when introduced through the exhaust ventilator shall be heated in accordance with criteria in MIL-HDBK-1190.

4.12.3.6 Sight Lines. Sight lines shall be provided between hard-connected equipment and breaker panels. Indirect waste lines shall be provided on all sinks and hot food wells. Finishes shall be similar to those described in para. 4.12.1.

4.12.4 Dry Storage. Shelving and dunnage racks for bulk food storage shall be provided in this area, raised 10 in. (254 mm) above the floor. Shelves shall be approx. 24 in. (610 mm) deep with a 3 ft. 0 in. (914 mm) minimum aisle width between them. The dry storage room shall be ventilated with an ambient temperature of 70° F (21.1° C). See Plates 17 and 18 for space relationships.



Title	Date	Category Code	Plate
KITCHEN AREA: EXAMPLE LAYOUT AND CRITICAL DIMENSIONS	March 1987	740 Series	20

4.12.5 Refrigerated Storage. All perishable food items shall be stored on mobile or permanent shelving with 10 in. (254 mm) floor clearance. Shelving shall be 21 - 24 in. (533-610 mm.) deep with 3 ft 0 in. (914 mm) minimum aisle between them. Louvered metal or open welded shelving should be used. See Plates 17 and 18 for space relationships.

Refrigerated rooms subdivided into dairy, produce, meat, freezer, and chef's daily use compartments shall be provided. Access to the freezer compartment shall be through a refrigerated compartment to minimize infiltration of warm air. The meat compartment shall be adjacent to the freezer to facilitate thawing of frozen meat products.

The design of cold storage rooms and the selection and installation of refrigeration systems should be in strict accordance with criteria specified in NAVFAC DM 3.4, Refrigeration Systems for Cold Storage. Refrigeration systems shall be energy conservative and incorporate heat recovery devices where appropriate.

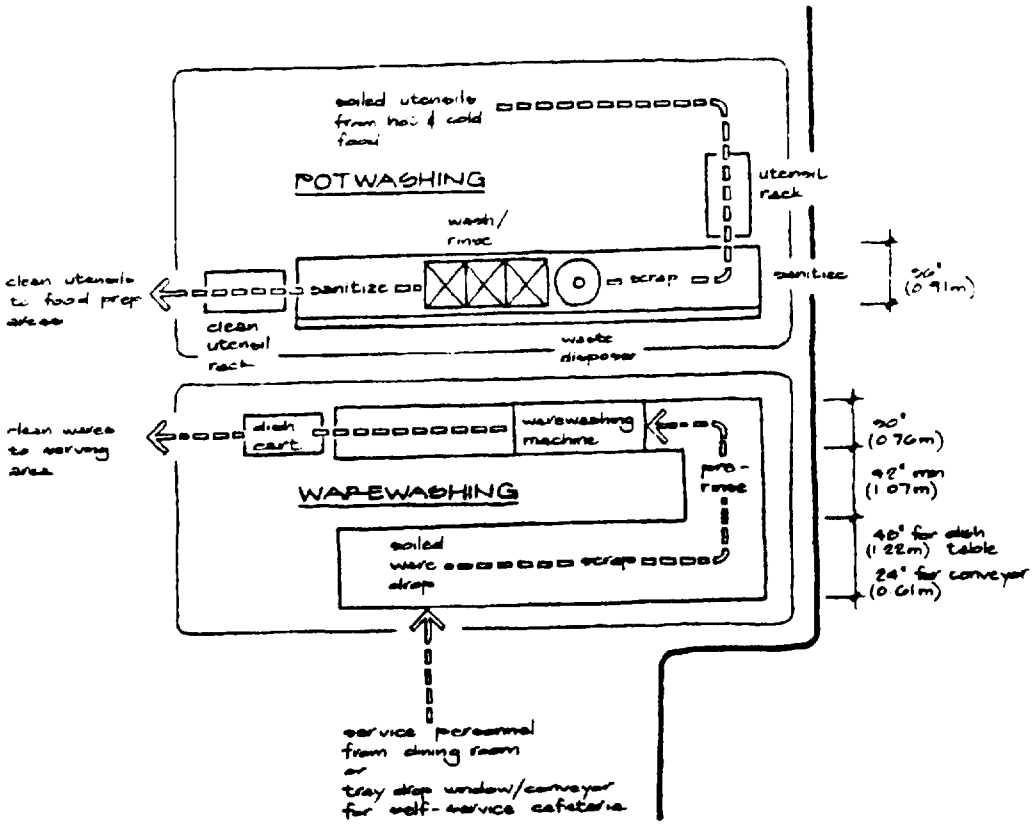
4.12.6 Receiving Area. The size of the receiving area for a specific mess facility should be determined by the nature of food service operations and pattern and frequency of supply systems. See Plates 17 and 18 for space relationships.

A covered loading/unloading dock at proper height for truck deliveries shall be provided. Equipment in the receiving area shall include an inspection table and a freight scale.

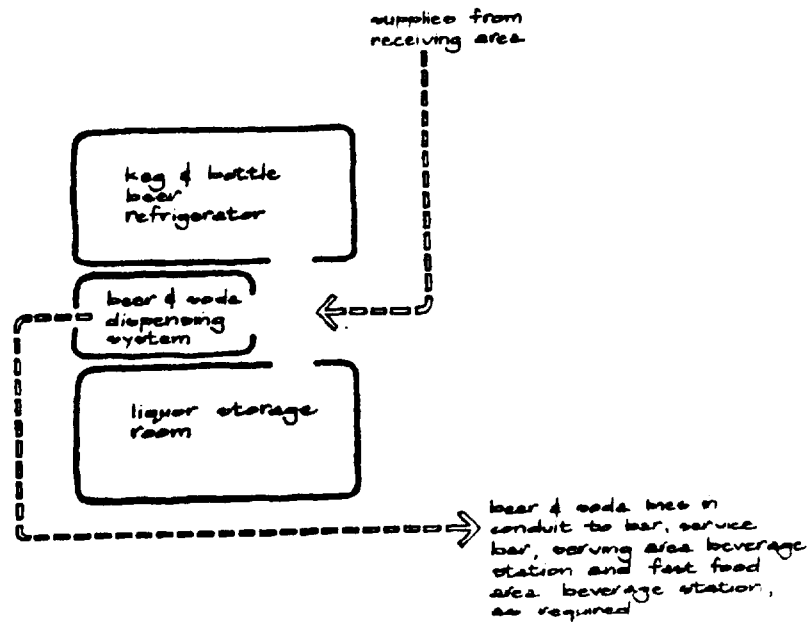
4.12.7 Warewashing. The warewashing area shall be equipped with a dishwashing machine sized, in terms of pieces or racks per hour, according to the volume of dishes to be cleaned. The dishwashing machine type (single tank, multiple tank, rack type, flight type) should be selected based on volume, capacity, and space available. The machine should have a 40 percent greater rated capacity than the anticipated volume. Also affecting its selection will be available fuel sources. Electric, gas, and steam heated machines are available (see Plate 21 for example layout and critical dimensions).

The warewashing area shall be provided with all electrical connecting equipment required for rough and wet service. To simplify installation, a dishwashing machine with manifold drains should be specified. A garbage disposal with necessary plumbing hookups should be provided. The use of disposer systems with recirculating water for water conservation or the use of pulper/extractors for high volume facilities should be considered as an alternative.

4.12.7.1 Chemical Sanitizers. Chemical sanitizers can reduce the need for hot water, at the expense of complete soil removal and the loss of flash drying. When they are used, dedicated chemical storage should be provided to prevent contamination of foods and serving utensils. In large facilities, this should be a separate room. In small ones, a metal cabinet or closet can be used. When a hot water sanitizing machine is used, 140° F (60° C) hot water shall be provided.



21a. Potwashing & Warewashing: Example Layout & Critical Dimensions



21b. Central Beverage System: Example Layout

Title	Date	Category Code	Plate
WASHING AND CENTRAL BEVERAGE SYSTEM AREAS	March 1987	740 Series	21

4.12.7.2 Options. Manufacturers offer options like blower-dryers, conveyors, prewash tanks, and modified arrangements to accommodate extra high and extra wide equipment. Options vary by manufacturer and with equipment capacity.

4.12.7.3 Air Exhausts. Ambient air exhaust shall be provided in the warewashing area. Depending on its design, the dishwashing machine shall be connected directly to exhaust ducts, or an exhaust hood shall be provided overhead (for single tank machines, where permissible by code).

4.12.7.4 Surface Materials. Surface materials shall be easily cleaned and nonabsorbant. Examples include stainless steel equipment, ceramic tile at walls, quarry tile at floors, etc. Flooring materials shall be nonskid. A floor drain shall be provided. A floor sink shall be provided if used for dishwashing machine indirect waste. Floors shall be positively waterproofed over their entire area. All floor penetrations shall be waterproofed and all sleeves extended 2 in. (51 mm) above the finished floor. The floor shall be sloped to drain.

4.12.8 Potwashing. A three compartment sink with grease overflow drain and disposer shall be provided. In large facilities, potwashing machines shall be used in conjunction with manual wash sinks. See Plate 21 for example layout and critical dimensions.

When the use of a potwashing machine is unnecessary and a completely manual system is inadequate, the use of a mechanical pot scrubber and a wash sink water agitator may be considered. A soiled ware holding area shall be provided adjacent to the source of soiled ware drop off. It may be part of the pot sink or on a separate shelf. A clean ware holding area shall be provided adjacent to the clean final rinse sink. As part of the pot sink, temporary holding may be in the potwash area, or on a separate shelf. Permanent holding may be in the potwash space or at the point of use.

4.12.8.1 Ventilation. The area shall be adequately ventilated. Spot cooling is desirable and shall be provided, if possible.

4.12.8.2 Miscellaneous. The area shall also be provided with all electrical equipment required for rough and wet service. All lines shall be run through a grease trap, preferably located outside of the building. If the grease trap is located within the kitchen area, a recessed grease trap, flush with floor, shall be provided. Surface materials and design of floors shall be similar to that in para. 4.12.7.4.

4.12.9 Chef's Office. For planning and programming purposes, 5 percent of the total net area of the kitchen. A minimum of 80 net ft^2 (7.43 net m^2), shall be allocated for a chef's office.

The office shall be designed to permit maximum visual surveillance over the kitchen area. One design alternative is to have the chef's office elevated approx. 18 in. above the other areas in the kitchen. Typically, furnishings and equipment shall include: desk, chairs, file cabinets, shelves, computer terminal and intercom. Proper power supply shall be provided for current and future equipment needs.

4.12.10 Central Beverage System. The central beverage system area shall be sized in accordance with the overall beverage requirement for the facility (see Plate 21 for example layout).

This area shall be equipped with: shelving, dunnage racks, remote dispensing system for soda, beer, wine and liquor, and a walk in refrigerator for beer in kegs, bottles and cans. EMT or PVC conduit shall be provided between central beverage dispensing equipment and each point of use within the facility. The diameter of conduit will vary between 6 to 8 in. (152 to 203 mm) depending upon the number of products being dispensed.

The use of remote dispensing systems may be uneconomical in small messes. In such cases, beverages may be manually delivered from a centrally located beverage storage area to holding areas at the points of use.

4.12.11 Function Room Service Kitchen. A service kitchen may be provided as a separate space located adjacent to a function room distant from the main kitchen area. The service kitchen should be equivalent to 25 to 30 percent of the net area of the function room. It shall provide all kitchen equipment necessary to maintain cold and hot food items at appropriate temperatures. See Plate 22 for example layout and criteria dimensions.

4.13 Staff Support Area

4.13.1 Primary Design Considerations

4.13.1.1 Use and Performance. Accommodate toilets, changing facilities, lockers and a lounge area for employees, janitor's supplies and sinks for housekeeping, and a space for primary mechanical equipment for the building.

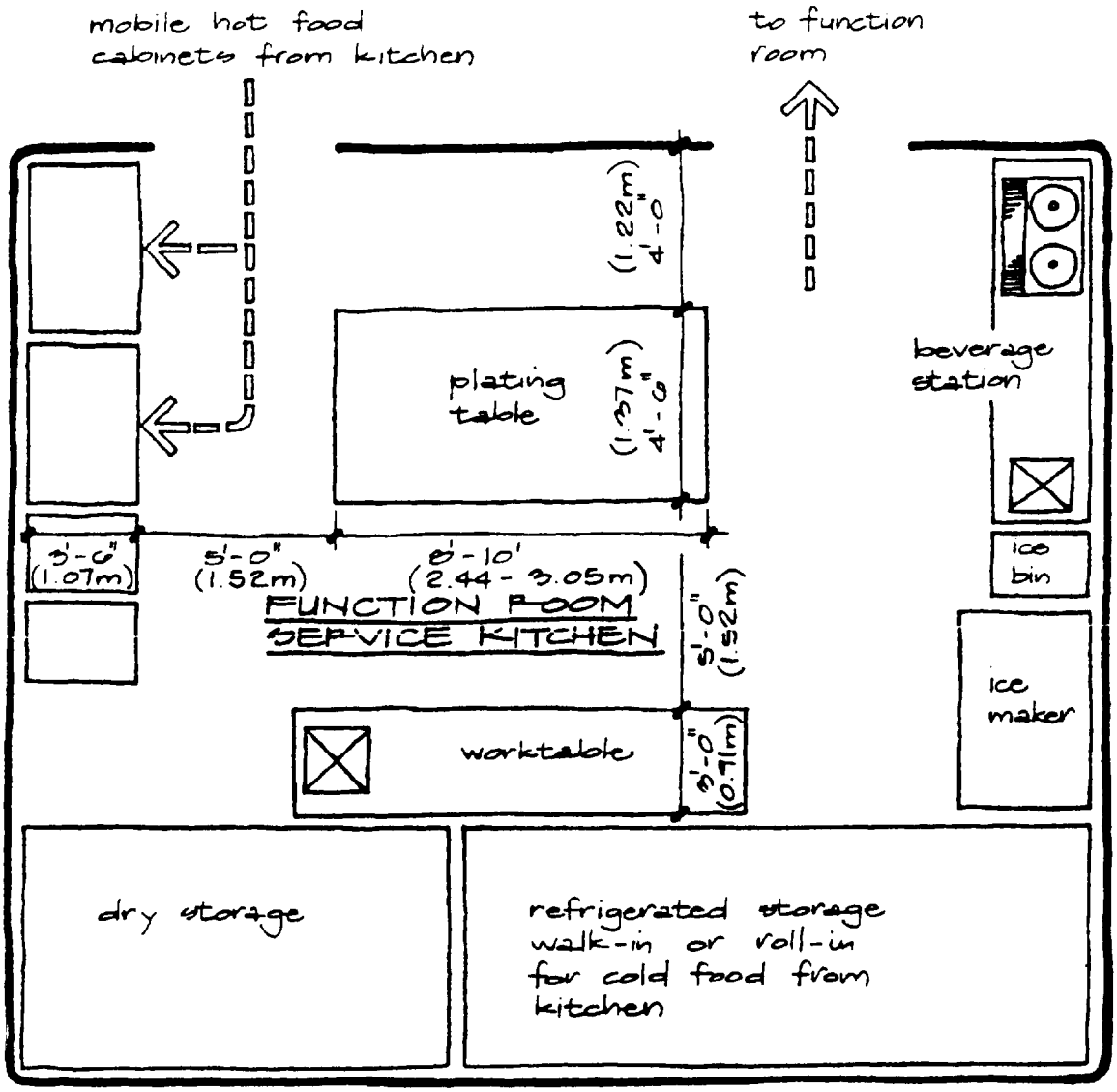
4.13.1.2 Space Organization and Character. The employee lounge, lockers, toilets, and the janitor's closet, shall be located near the kitchen area. The mechanical room shall be accessible from outside the facility only, located so that its service access can share the kitchen service drive. See Plate 23 for staff support area space relationships.

4.13.2 Staff Support Subareas

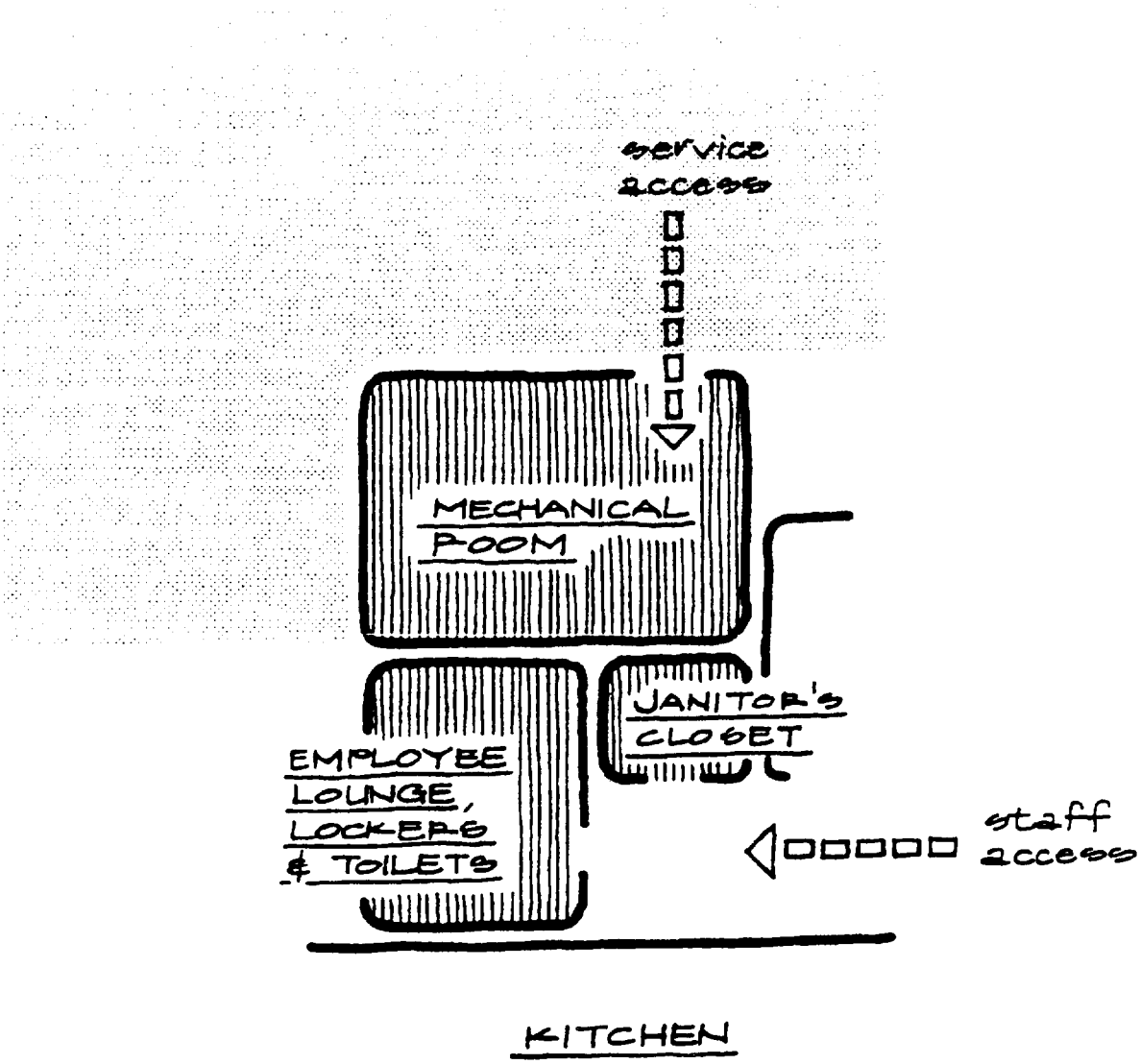
4.13.2.1 Employee Lounge, Locker and Toilets. The equivalent of between 8 and 15 percent of the net floor area of the kitchen shall be allocated for these employee facilities. Sturdy, maintenance free equipment shall be used in the area.

4.13.2.2 Janitor's Closet. The equivalent of 0.5 and 0.8 percent of the net floor area for the whole mess facility shall be allocated for housekeeping facilities. Appropriate surface materials, equipment, and furnishings shall be provided.

4.13.2.3 Mechanical Room. The equivalent of 4 to 7 percent of the net floor area for the total facility shall be allocated to the mechanical room. Size may vary according to building system design and equipment requirements, in response to local climate conditions. See Plate 23 for space relationships. Roof penetrations and equipment installation on roofs shall be kept to an absolute minimum.



Title	Date	Category Code	Plate
FUNCTION ROOM SERVICE KITCHEN: EXAMPLE LAYOUT AND CRITICAL DIMENSIONS	March 1987	740 Series	22



Title	Date	Category Code	Plate
STAFF SUPPORT AREA: SPACE RELATIONSHIPS	March 1987	740 Series	23

The mechanical room area shall accommodate: primary HVAC system and hot water system equipment, electric panels, and telephone service panels in a separate closet. A one-hour, fire-rated enclosure shall be provided if mechanical equipment subject to explosion is located here. A lockable door, accessible only from outside the facility, shall be provided. A concrete or similarly low maintenance floor, sloped to a floor drain, shall be provided.

Section 5. ILLUSTRATIVE PROGRAMS AND DESIGNS

5.1 General. This section presents five different schematic layout designs based on example space programs for hypothetical bases. These programs and designs illustrate the criteria contained in this handbook, applied to realistic situations. A range of typical local mess operations, likely facility sizes, space requirements, and varieties of layout design approaches are covered in the examples.

The illustrative space programs and accompanying schematic designs are not definitive area requirements or building layouts. Each base should develop its own program requirements and design solution appropriate to local functions, operating pattern, size requirements, site constraints, and desired architectural character. The illustrative programs and designs are included to help local users in their development of individual local solutions and to better understand the design guidance and criteria.

5.2 Single Rank, Full Service Mess

5.2.1 Program. This illustrative project consists of a single rank, full service mess, programmed for officers or chief petty officers. The 22,000 ft^2 (2,044 m^2) facility is sized to accommodate a user population of 1,000 personnel. Refer to Table 4 for illustrative space program.

5.2.2 Layout Design. The clear and relatively simple layout (see Plate 24) of this facility displays archetypal mess component areas and space relationships. Clustering the dining, lounge, patron support and administration areas around the lobby permits a patron entering the mess to grasp quickly the organization of the facility and get a first glimpse of most activities. The function room has a separate entry for large events and formal occasions, and it is also connected by circulation space to the lobby.

The dining and function rooms are arranged so they can open up and serve as extensions to each other when desired. The lounge is close to the dining room for convenient access for waiting dinner guests. Food service access to the dining and function rooms from the adjoining kitchen is short and direct.

Each of the three major patron-use spaces (the dining room, function room and lounge) is provided with a separate, adjacent outdoor area.

5.3 Enlisted Mess

5.3.1 Program. The enlisted mess facility is intended to serve a user population of 5,000 enlisted personnel and has an overall gross area of 30,000 ft^2 (2,760 m^2). Refer to Table 5 for illustrative space program.

5.3.2 Layout Design. This design layout (see Plate 25) incorporates the same general relationship as the single rank mess, para 5.2, with dining, lounge, patron support and administration areas clustered around the lobby, the function room more distant with its own entrance, and direct food service access from the kitchen. These relationships are stretched out and modified to accommodate the larger size and some additional specialized spaces. Catering to patrons who are younger and frequently single, the facility dining area includes a fast food outlet/snack bar, and the lounge area includes

Table 4

Illustrative Space Program: Single Rank, Full Service Mess
Officers or Chief Petty Officers

	NET AREAS FT^2	EQUIV. NET AREAS M^2
DINING AREA	2,800	(260)
- Dining room	2,800	(260)
[Seating Capacity: 175 persons]		
LOUNGE AREA	4,470	(416)
- Lounge (including Bar and Dance Floor/Bandstand)	3,150	(293)
[Seating Capacity: 175 persons]		
- Game room	1,000	(93)
- Bar and Lounge Storage	320	(30)
MULTIPURPOSE AREA	3,450	(321)
- Function room (includ. Service Bar)	3,000	(279)
[Seating Capacity: 250 persons]		
- Storage	450	(42)
PATRON SUPPORT AREA	4,270	(397)
- Lobby/Circulation	3,440	(320)
- Coat room	230	(21)
- Toilets	600	(56)
ADMINISTRATION AREA	650	(60)
- Individual Office:		
- Manager	130	(12)
- Assistant Manager	100	(9)
- Shared Office Space (including Catering Manager, Bookkeeper/Cashier, Bar Foreman, Secretary)	320	(30)
- General Storage	100	(9)

Table 4 (continued)

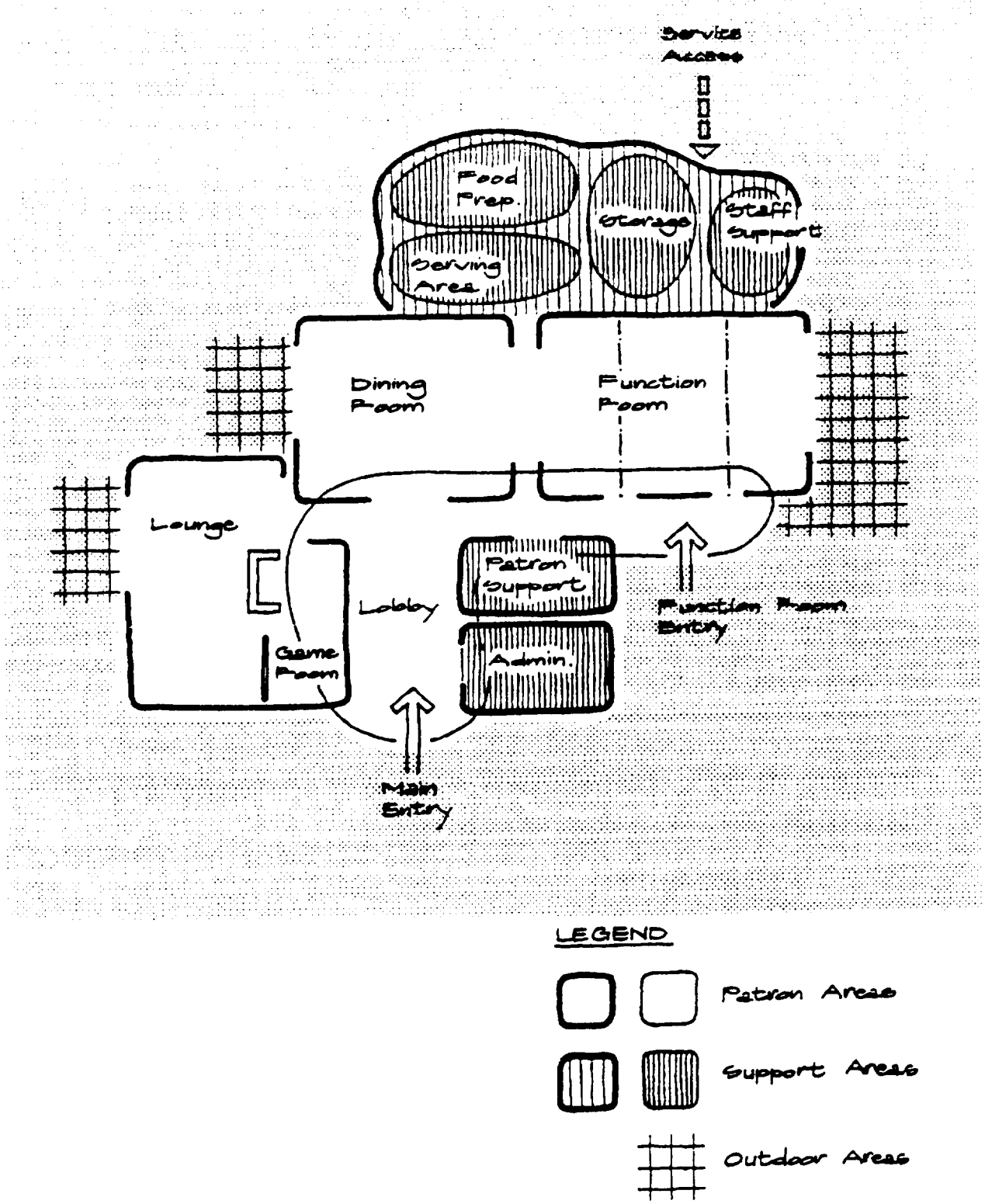
	NET AREAS FT^2	EQUIV. NET AREAS M^2
KITCHEN AREA	4,000	(372)
- Serving Area	800	(74)
- Food Preparation	1,400	(130)
- Dry and Refrigerated Storage, Central Beverage Systems and Receiving Area	1,000	(93)
- Warewashing/Potwashing	600	(56)
- Chef's Office and Miscellaneous Support Space	200	(19)
STAFF SUPPORT AREA	600	(56)
- Employee Lounge, Lockers and		
- Toilets	480	(45)
- Janitor's Closet	120	(11)
- Mechanical Room	[610]*	(57)*
NET TOTAL	20,240	(1,881)
CONSTRUCTION (net to gross)	1,760	(164)
GROSS TOTAL	22,000	(2,044)

Net areas (in Ft^2). Equivalent net areas (in m^2) shown in parentheses.

Associated outdoor facilities at local option:

- Swimming Pool
- Golf Course
- Tennis Courts

*Not included in net total or gross total.



Title	Date	Category Code	Plate
SINGLE RANK MESS: SCHEMATIC LAYOUT DESIGN	March 1987	740 Series	24

Table 5

Illustrative Space Program: Enlisted Mess (E1 - E3)

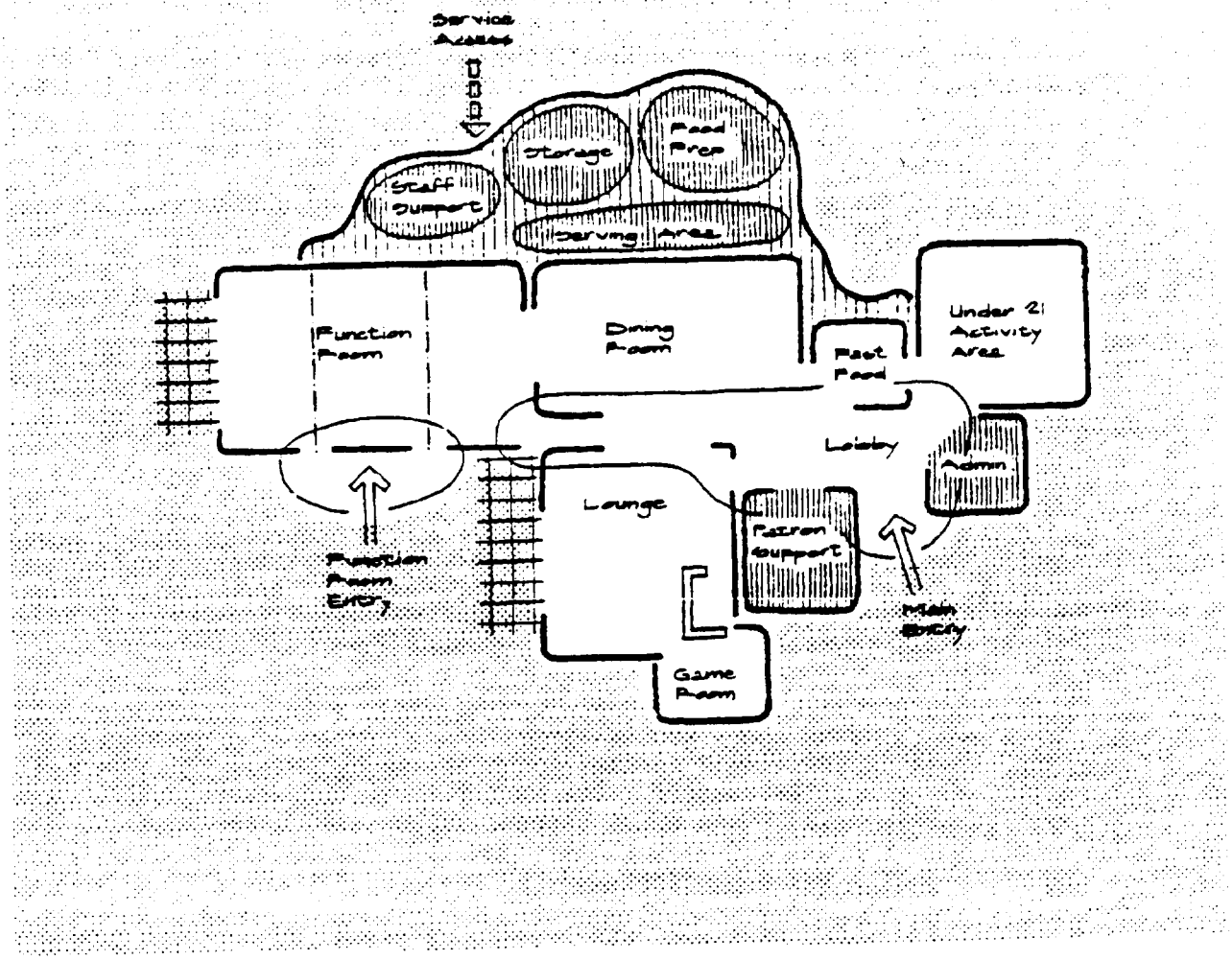
	NET AREAS FT^2	EQUIV. NET AREAS M^2
DINING AREA	3,200	(297)
- Dining room (including Waiter Stations/ Side Stands) [Seating Capacity: 200 persons]	3,200	(297)
LOUNGE AREA	5,980	(556)
- Lounge (including Bar and Dance Floor/ Bandstand) [Seating Capacity: 150 persons]	2,700	(251)
- Game Room	540	(50)
- Under 21 activity area [Seating Capacity: 130 persons]	2,340	(218)
- Bar and Lounge Storage	400	(37)
MULTIPURPOSE	5,170	(480)
- Function room (including Service Bar) [Seating Capacity: 375 persons]	4,500	(418)
- Storage	670	(63)
FAST FOOD AREA	1,300	(121)
- Serving Area	500	(47)
- Food Preparation	800	(74)
Cafe dining accommodated in dining room [Seating Capacity: 120 persons]		
PATRON SUPPORT AREA	5,790	(538)
- Lobby/Circulation	4,750	(441)
- Coat room	340	(32)
- Toilets	700	(65)
ADMINISTRATION AREA	740	(69)
- Individual Office:		
- Manager	130	(12)
- Assistant Manager	100	(9)
- Catering Manager	100	(9)
- Bookkeeper/Cashier	100	(9)
- Shared Office Space (including Secretary, Staff Foreman)	160	(15)
- General Storage	150	(14)

Table 5 (continued)

	NET AREAS FT^2	EQUIV. NET AREAS M^2
KITCHEN AREA	5,000	(465)
- Serving Area	1,000	(93)
- Food Preparation	1,750	(163)
- Dry and Refrigerated Storage,Central Beverage Systems and Receiving Area	1,250	(116)
- Warewashing/Potwashing	750	(70)
- Chef's Office and Miscellaneous Support Space	250	(23)
STAFF SUPPORT AREA	720	(67)
- Employee Lounge, Lockers and Toilets	550	(51)
- Janitor's Closet	170	(16)
- Mechanical room	[800]*	(74)*
NET TOTAL	27,900	(2,592)
CONSTRUCTION (net to gross)	2,100	(195)
GROSS TOTAL	30,000	(2,787)

Net areas in square feet. Equivalent net areas in square meters shown in parentheses.

*Not included in net total or gross total.



Title	Date	Category Code	Plate
ENLISTED MESS: SCHEMATIC LAYOUT DESIGN	March 1987	740 Series	25

a separate alcohol free activity area for under 21-year olds. To avoid their intrusion on the different character of those functions, these spaces are located at a distance from the main dining and lounge spaces.

The facility is organized so that during low-use periods the kitchen area may be closed down. Limited food service may be supplied from the fast food area, which can operate independently. Direct service access from the food preparation and storage areas of the kitchen can support the fast food operation.

5.3.2.1 Bar. The bar is positioned to straddle the lounge and game room and conveniently provide full beverage service to both areas. Snacks and nonalcoholic beverage service to the under-21 activity area may be provided from the adjoining fast food outlet.

5.4 Simple Consolidated Mess

5.4.1 Program. The simple consolidated mess has an overall gross area of 12,000 ft^2 (115 m^2). It is the smallest of the five illustrative projects presented in this handbook. Officers, chief petty officers and enlisted personnel all share this facility. Refer to Table 6 for illustrative space programs.

5.4.2 Layout Design. All patron activity areas in this mess except for lounges, are shared by all three rank categories. Officers and chief petty officers share one lounge, and enlisted personnel occupy another, located at opposite ends of the facility. Each lounge has its own distinct outdoor terrace. See Plate 26 for schematic layout design.

There is no separate function room in this small mess. For flexibility, the dining and function rooms are combined into a single large subdividable space. This is positioned in the center of the building, directly off the lobby between the two lounges. One set of activity support spaces (kitchen, administration, patron and staff support areas) serves the entire facility.

5.5 Collocated Consolidated Mess

5.5.1 Program. Officers, chief petty officers and enlisted personnel are accommodated in separate portions of this collocated consolidated mess, which has a gross area of 39,000 ft^2 (3,623 m^2). Refer to Table 7 for illustrative space program.

5.5.2 Layout Design. At the center of this layout (see Plate 27) is one large kitchen area, sized to support all patron activity areas of the mess. Around the kitchen are arrayed three similar clusters of patron spaces one each for officers, chief petty officers, and enlisted personnel, plus a single, shared function room. Each rank group cluster includes a dining room, lounge, game room and patron support area, conveniently grouped around its own lobby. A fast food outlet is positioned between the CPO and enlisted areas and accessible from both, with cafe dining accommodated in each respective rank group dining room. The function room has it own separate entry and patron support spaces, and the single administration area is located off the officers' lobby.

Table 6

Illustrative Space Program: Simple Consolidated Mess, Officers, Chief Petty Officers and Enlisted Personnel

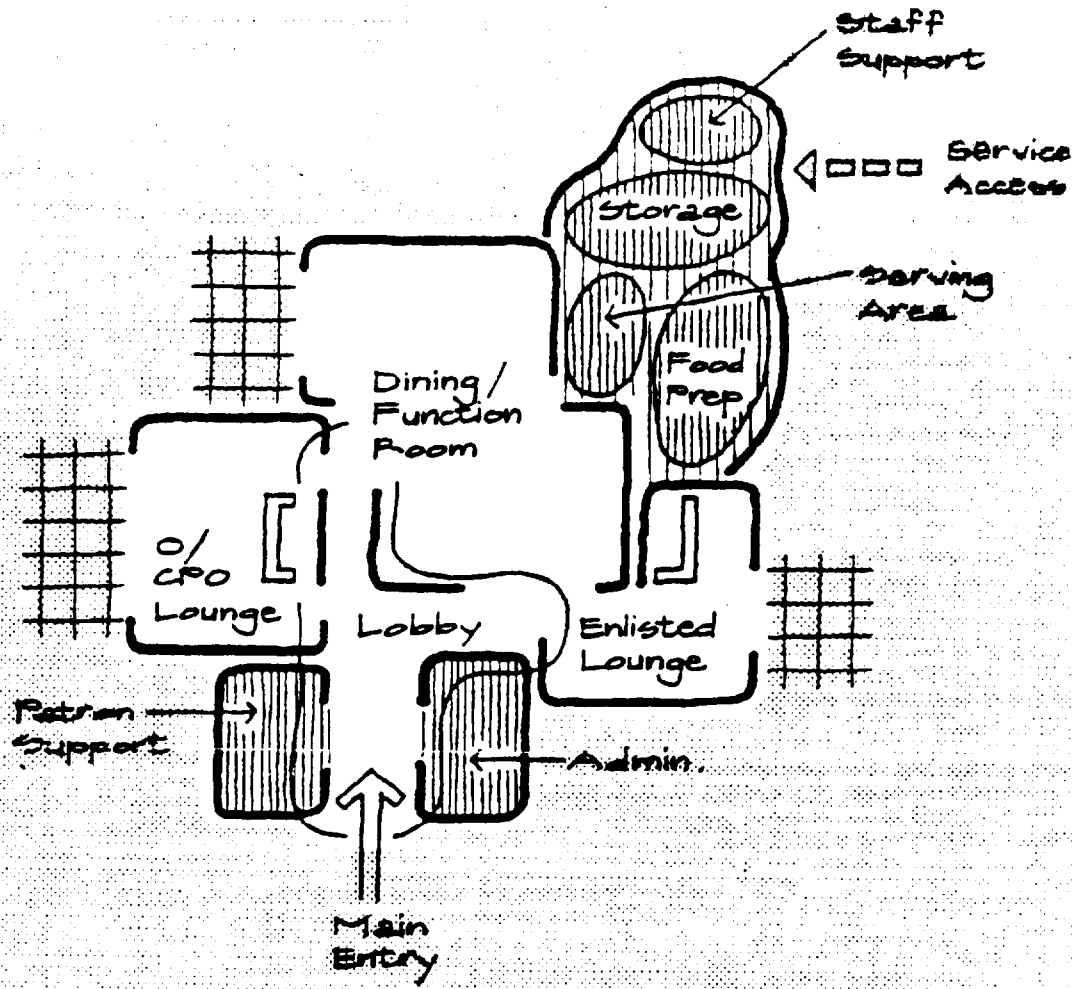
	NET AREAS FT^2	EQUIV. NET AREAS M^2
DINING/MULTIPURPOSE AREA	2,760	(257)
- Dining/Function room	2,400	(223)
[Seating Capacity: 150-200 persons]		
- Storage	360	(33)
LOUNGE AREA	2,140	(199)
- Officer and CPO Lounge (including Bar)	920	(85)
[Seating Capacity: 50 persons]		
- Enlisted Lounge (including Bar)	1020	(95)
[Seating Capacity: 55 persons]		
- Bar and Lounge Storage	200	(19)
PATRON SUPPORT AREA	2,710	(252)
- Lobby/Circulation	2,270	(211)
- Coats	140	(13)
- Toilets	300	(28)
ADMINISTRATION AREA	490	(45)
- Individual Office:		
- Manager	130	(12)
- Assistant Manager	100	(9)
- Shared Office Space	160	(15)
(including Secretary, Cashier)		
- General Storage	100	(9)
KITCHEN AREA	2,400	(223)
- Serving Area	480	(45)
- Food Preparation	840	(78)
- Dry and Refrigerated Storage,		
Central Beverage Systems and Receiving Area	600	(56)
- Warewashing/Potwashing	360	(33)
- Chef's Office and Misc. Support Space	120	(11)

Table 6 (continued)

	NET AREAS FT^2	EQUIV. NET AREAS M^2
STAFF SUPPORT AREA - Employee Lockers and Toilets - Janitor's Closet - Mechanical Room	300 240 60 [330]*	(28) (22) (6) (31)*
NET TOTAL CONSTRUCTION (net to gross)	10,800 1,200	(1,004) (112)
GROSS TOTAL	12,000	(1,116)

Net areas in square feet. Equivalent net areas in square meters shown in parentheses.

*Not included in net total or gross total.



LEGEND

Patron Areas

Support Areas

Outdoor Areas

Title	Date	Category Code	Plate
SIMPLE CONSOLIDATED MESS: SCHEMATIC LAYOUT DESIGN	March 1987	740 Series	26

Table 7

Illustrative Space Program: Collocated Consolidated Mess Officers, Chief Petty Officers and Enlisted Personnel

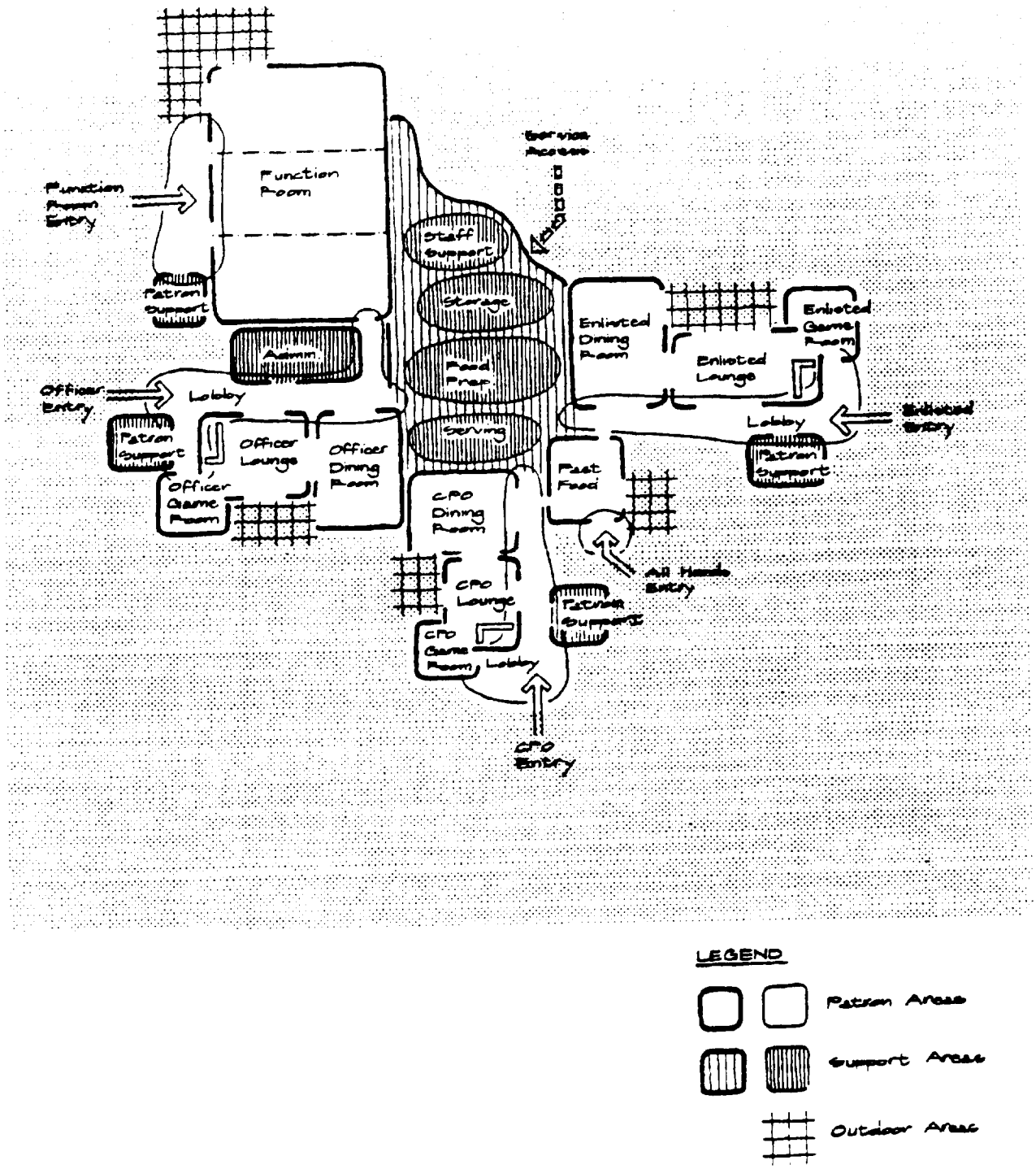
	NET AREAS FT^2	EQUIV. NET AREAS M^2
DINING AREA	5,200	(484)
- Officer dining room (including Waiter Station) [Seating Capacity: 100 persons]	1,600	(149)
- CPO dining room (including Waiter Station) [Seating Capacity: 75 persons]	1,200	(112)
- Enlisted dining room (including Waiter Station) [Seating Capacity: 150 persons]	2,400	(223)
LOUNGE AREA	6,740	(626)
- Officer Lounge (including Bar) [Seating Capacity: 75 persons]	1,350	(125)
- Officer Game room	700	(65)
- CPO Lounge (including Bar) [Seating Capacity: 50 persons]	900	(84)
- CPO Game room	500	(47)
- Enlisted Lounge (including Bar) [Seating Capacity: 100 persons]	1,800	(167)
- Enlisted Game room	1,080	(100)
- Bar and Lounge Storage	410	(38)
MULTIPURPOSE AREA	4,620	(429)
- Function room (including Service Bar) [Seating Capacity: 350 persons]	4,200	(390)
- Storage	420	(39)
FAST FOOD AREA	1,110	(103)
- Serving Area	410	(38)
- Food Preparation	700	(65)
Cafe dining accommodated in Enlisted and CPO dining rooms [Seating Capacity: 105 persons]		
PATRON SUPPORT AREA	9,740	(905)
- Officer Lobby/Circulation	3,120	(290)
- CPO Lobby/Circulation	2,270	(211)
- Enlisted Lobby/Circulation	2,950	(274)
- Officer Coat room	100	(9)
- CPO Coat room	100	(9)
- Enlisted Coat room	150	(14)
- Officer Toilets	300	(28)
- CPO Toilets	300	(28)
- Enlisted Toilets	450	(42)

Table 7 (continued)

	NET AREAS FT^2	EQUIV. NET AREAS M^2
ADMINISTRATION	920	(85)
- Individual Office:		
- Manager	150	(14)
- Assistant Manager	100	(9)
- Catering Manager	100	(9)
- Bookkeeper/Cashier	100	(9)
- Shared Office Space (including Bar Foreman, Waitress Foreman, Night Manager, Secretary)	320	(30)
- General Storage	150	(14)
KITCHEN AREA	7,050	(657)
- Serving Area	1,410	(131)
- Food Preparation	2,470	(230)
- Dry and Refrigerated Storage, Central Beverage Systems and Receiving Area	1,760	(164)
- Warewashing/Potwashing	1,060	(99)
- Chef's Office and Miscellaneous Support Space	350	(33)
Staff Support Area	890	(83)
- Employee Lounge, Lockers and Toilets	710	(66)
- Janitor's Closet	180	(17)
- Mechanical room	[1,090]*	(101)*
NET TOTAL	36,270	(3,372)
CONSTRUCTION (net to gross)	2,730	(254)
GROSS TOTAL	39,000	(3,626)

Net areas in ft^2. Equivalent net areas in m^2 shown in parentheses.

*Not included in net total or gross total.



Title	Date	Category Code	Plate
COLLOCATED CONSOLIDATED MESS: SCHEMATIC LAYOUT DESIGN	March 1987	740 Series	27

This layout arrangement provides the most efficient space relationship for a large, complex facility. There is direct service access from the kitchen to all three dining rooms, the fast food outlet, and the function room, with no patron circulation crossing service circulation. There is no patron circulation required from one rank group cluster to another, although access for service personnel would be provided. One unavoidable access problem is that there is no interior connection for chief petty officers and enlisted personnel to the function room, as there is for the officers. This would be impossible without crossing patron and kitchen service circulation, so these users go outside to the function room entry.

The entries for each portion of the mess are located on different sides of the building, clearly separating patron traffic into rank categories. Separate outdoor terraces related to indoor patron use spaces are provided for each separate portion of the facility.

5.6 Mall Type Collocated Consolidated Mess

5.6.1 Program. At 45,000 ft^2 (4,181 m^2), this mess facility has the largest program area of the five illustrative projects presented in this handbook. In addition to accommodating the whole range of typical mess activities, it provides for the optional addition of other collocated recreational facilities, such as a bowling alley, health club, etc. Refer to Table 8 for illustrative space program.

5.6.2 Layout Design. A special variation of the collocated consolidated mess, the mall type facility introduces the concept of arranging a variety of shared and separate patron use areas along a promenade, similar to a civilian shopping mall configuration. Separation of ranks in this scheme is achieved by grouping the patron use areas for officers and chief petty officers at one end of the promenade, while areas for enlisted personnel, or all hands, are clustered around the opposite end. The officer and CPO areas have separate lounge, game room and patron support spaces, while they share a large, subdividable dining room for greater flexibility. The enlisted area has a large fast food outlet/cafeteria and dining area, opening onto the promenade, across from the large enlisted lounge, game room, and patron support spaces.

5.6.2.1 Multipurpose Area. The multipurpose area is located on the second level, over the officer and chief petty officer areas. This is the only example among the five illustrative projects in this handbook which uses a second floor. This position permits direct interior access to the multipurpose area from all rank group areas of the mess, with no conflicts between patron and service circulation. It does require a service kitchen on the second level to serve the function room, supported from the main kitchen on the first floor.

5.6.2.2 Main Entry. The main entry to this mall type mess is at the corner of the mall, between the officer/CPO and enlisted arms of the promenade. This is where the main lobby, single administration area, and primary vertical circulation to the second level are located. Separate officer and enlisted entries are provided at the far ends of the facility.

5.6.2.3 Advantages. The mall concept is applicable mostly to large messes. One of the major advantages of this configuration is that in addition to the usual complement of MCA it allows other recreational spaces to be conveniently

collocated with the mess facility in a mutually beneficial arrangement. In this example, a bowling alley is shown sited at the enlisted end of the mess, for desired shared patron use of fast food and game room facilities (see Plate 28).

Table 8

Illustrative Space Program: Mall Type, Collocated Consolidated Mess Officers, Chief Petty Officers and Enlisted Personnel

	NET AREAS FT^2	EQUIV. NET AREAS M^2
DINING AREA	3,200	(297)
- Combined dining/Party rooms for O & CPO (subdividable and including Waiter Station) [Seating Capacity: 200 persons]	3,200	(297)
- Enlisted dining accommodated in Fast Food Area		
LOUNGE AREA	8,140	(756)
- Officer Lounge (including Bar) [Seating Capacity: 100 persons]	1,800	(167)
- Officer Game room	600	(56)
- CPO Lounge (including Bar) [Seating Capacity: 60 persons]	1,080	(100)
- CPO Game room	400	(37)
- Enlisted Lounge (including Bar) [Seating Capacity: 150 persons]	2,700	(251)
- Game room	1,000	(93)
- Bar and Lounge Storage	560	(52)
MULTIPURPOSE AREA	6,600	(614)
- Function room (including Service Bar) [Seating Capacity: 500 persons]	6,000	(557)
- Storage	600	(57)
FAST FOOD AREA	4,600	(427)
Serving Area	800	(74)
- Food Preparation	1,400	(130)
- Cafe dining (including Side Stands) [Seating Capacity: 150 persons]	2,400	(223)
PATRON SUPPORT AREA	10,530	(980)
- Mall Promenade	5,000	(465)
- Lobby/Circulation	3,730	(347)
- Coats	600	(56)
- Toilets	1,200	(112)

Table 8 (continued)

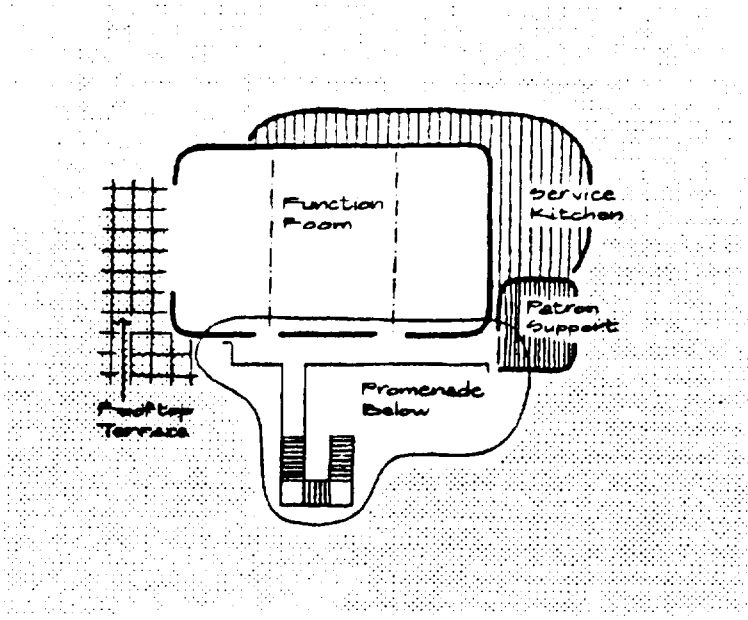
	NET AREAS FT^2	EQUIV. NET AREAS M^2
ADMINISTRATION AREA	1,000	(92)
- Individual Office	150	(14)
- Manager	100	(9)
- Assistant Manager	100	(9)
- Catering Manager	100	(9)
- Bookkeeper/Cashier	400	(37)
- Shared Office Space (including Bar Foreman, Waitress Foreman, Night Manager, Security Officer, Secretary)	150	(14)
- General Storage		
KITCHEN AREA	7,170	(666)
- Serving Area	1,080	(100)
- Food Preparation	1,880	(175)
- Dry and Refrigerated Storage, Central Beverage Systems and Receiving Area	1,340	(125)
- Warewashing/Potwashing	800	(74)
- Chef's Office and Miscellaneous Support Space	270	(25)
- Function room Service kitchen	1,800	(167)
STAFF SUPPORT AREA	860	(80)
- Employee Lounge, Lockers and Toilets	650	(60)
- Janitor's Closets	210	(20)
- Mechanical room	[1,270]*	(118)*
NET AREA	42,100	(3,912)
CONSTRUCTION (net to gross)	2,900	(269)
GROSS TOTAL	45,000	(4,181)

Net areas in ft^2. Equivalent net areas in m^2 are shown in parentheses.

Collocated recreational facilities at local option:

-	Bowling Alley	5,600	(520)
-	Health Club	2,000	(186)

*Not included in net total or gross total.



LEGEND

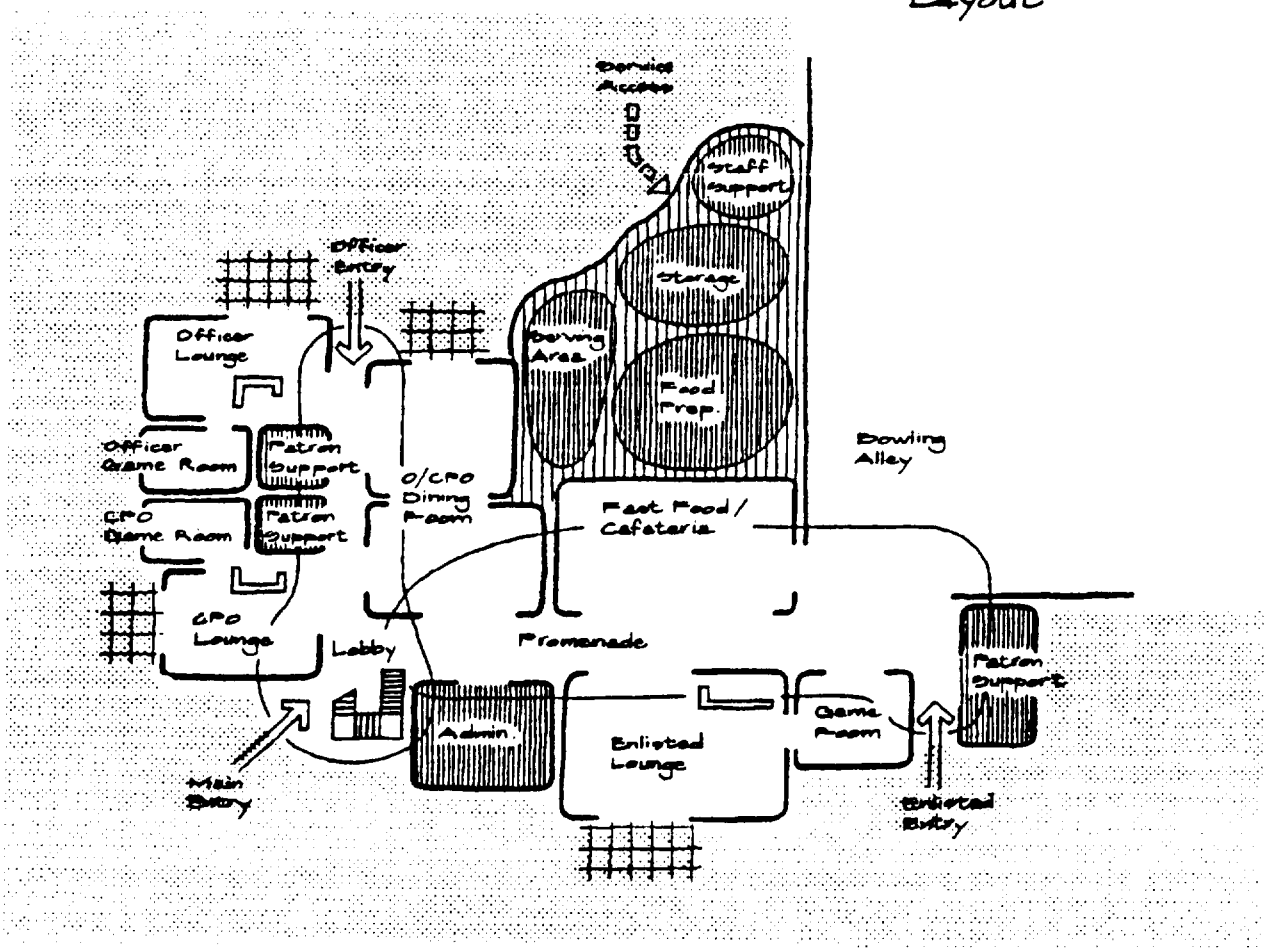
Patron Areas

Support Areas

Outdoor Areas

Second Floor Layout

First Floor Layout



Title "MALL" TYPE COLLOCATED CONSOLIDATED MESS: SCHEMATIC LAYOUT DESIGN	Date March 1987	Category Code 740 Series	Plate 28

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