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UNIFIED FACILITIES CRITERIA (UFC)

DESIGN: GOLF CLUBHOUSES

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U.S. ARMY CORPS OF ENGINEERS

NAVAL FACILITIES ENGINEERING COMMAND

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Chapter 1 Introduction

Vandenberg AFB - California

1-1 Purpose and Organization

This Design Guide provides the basic criteria to evaluate, plan, program, and design Golf Clubhouses for the purpose of enhancing the quality of life for the Air Force community. This document is intended for use by Base Civil Engineers, Base Golf Program managers, Major Command and Headquarters facilities and programming personnel, Needs Assessment Study teams and design architects and engineers. It is intended to help all participants better understand Golf Clubhouse requirements so that they can effectively participate in the project development process.

This Guide is applicable to all design projects for new or renovated Golf Clubhouses on Air Force installations, both in the continental United States and overseas. It provides criteria for determining program requirements, site evaluation and planning, overall facility design, and design of indoor and outdoor spaces. It is to be used in conjunction with other Air Force, Department of Defense and industry documents. A list of resources is presented in the Appendix.

1-1.1 Overview

The Information in this Design Guide is organized to address the key elements in the planning and design process:

- Chapter 2: Site Design – considerations of location, organization and access;
- Chapter 3: Building Design – guidance on organization and character;
- Chapter 4: Functional Area Criteria – design criteria for each of the functional areas within the Clubhouse, including their relationships;
- Chapter 5: Example Space Allocations and Plans – illustrative examples of three basic sizes of Golf Clubhouses, including space programs and plans;
- Chapter 6: Specialized Requirements – technical guidance on materials and equipment, building systems, and regulations;

- Appendix A: Resources and Links

1-2 Functions – Core and Optional

- Development of the facility space program should reflect the mix of golf support activities and food service that should be made available to the full range of military personnel, their dependents, and authorized civilians. Consideration should be given to the current and projected user population to be served by the proposed Golf Clubhouse, as well as specific population categories with potentially varying recreation and dining needs (such as eligible civilians, military personnel, their dependents, and retirees). The size and arrangement of spaces within the facility and the siting of the building should support and optimize the operation of the Clubhouse's activities.
- The primary activities of the Golf Clubhouse can be summarized as:
  - Golf shop and administration for providing control of the golf course and retail support to the course users;
  - Dining and food service for patrons using the golf course, coming for dining purposes, or attending special functions.

Within these categories, the spaces that make up the facility can be described as "core" and "optional". Core spaces are essential components of any Air Force Golf Clubhouse, regardless of size or location. Optional spaces may be appropriate given the situation at a particular installation, including whether the location is CONUS or OCONUS. Table 1 lists these core and optional spaces.

See Table 1-1 next page.

Table 1-1: Core and Optional Spaces

	CORE SPACES	OPTIONAL SPACES
Golf Shop	Counter Sales Inventory/ Receiving Repair/Rental Club Storage	Dressing Rooms
Administration	Operations Manager Events/Catering	Assistant Manager
Dining	Dining 1 Dining 2 (Function) Function 2 Function Storage	Bar Bar Storage
Food Service	Food Service Food Preparation/Soda Storage Refrigerator/Freezer Wash Supervisor	Employees
Support	Toilets/Lockers/Changing Custodial Storage General Circulation Mechanical/Electrical/Communications	Daily Fee Lockers Shower/Locker Rooms Distinguished Visitors' Room

1-3 The Success of a Golf Clubhouse

The success of the Golf Clubhouse will depend on the responsiveness of its activity mix to the wishes of the base population, and to the effectiveness of the Clubhouse's internal organization and its location on the base. The following sections of this design guide discuss these functional relationships.

Chapter 2 Site Design

McChord AFB - Washington

2-1 Location

The Golf Clubhouse shall be located to achieve three goals: control and support the activities on the course; support the activities of the golfers; and be an amenity for the base, especially by providing a good quality, convenient food service option.

2-1.1 Golf Activity Control

The Golf Clubhouse acts as a gateway to the golf course and controls the activity on it. The most critical determinant of its location is that it be near the first tee, or at least have good line of sight to it. Since the golf shop houses the starters desk, it should be located with a view of the first tee. To site the Clubhouse appropriately as an entry point, it should also give golfers access to the golf carts delivery area, parking, entry drive, and golfers drop-off.

The Clubhouse should make food service and dining conveniently accessible to golfers at mid-round, between the ninth green and tenth tee and to golfers finishing their rounds, coming in from the 18th hole. The siting should assure that there are good views of the course from the dining area.

2-1.2 Service to the Installation

The Clubhouse should be accessible to as many installation patrons as feasible. If possible, it should be located on a main road with convenient access from the main cantonment area. It should be visible from main circulation of the installation, both to increase accessibility for patrons and to generate more revenue with which to support programs.

The golf program should be considered as a key part of the installation open space Master Plan; its facilities form a major open space and park. The Clubhouse should be located close to a residential area so that these facilities provide residents with a recreation alternative. As

an example, the course and Clubhouse could be used for winter programs in more northern bases.

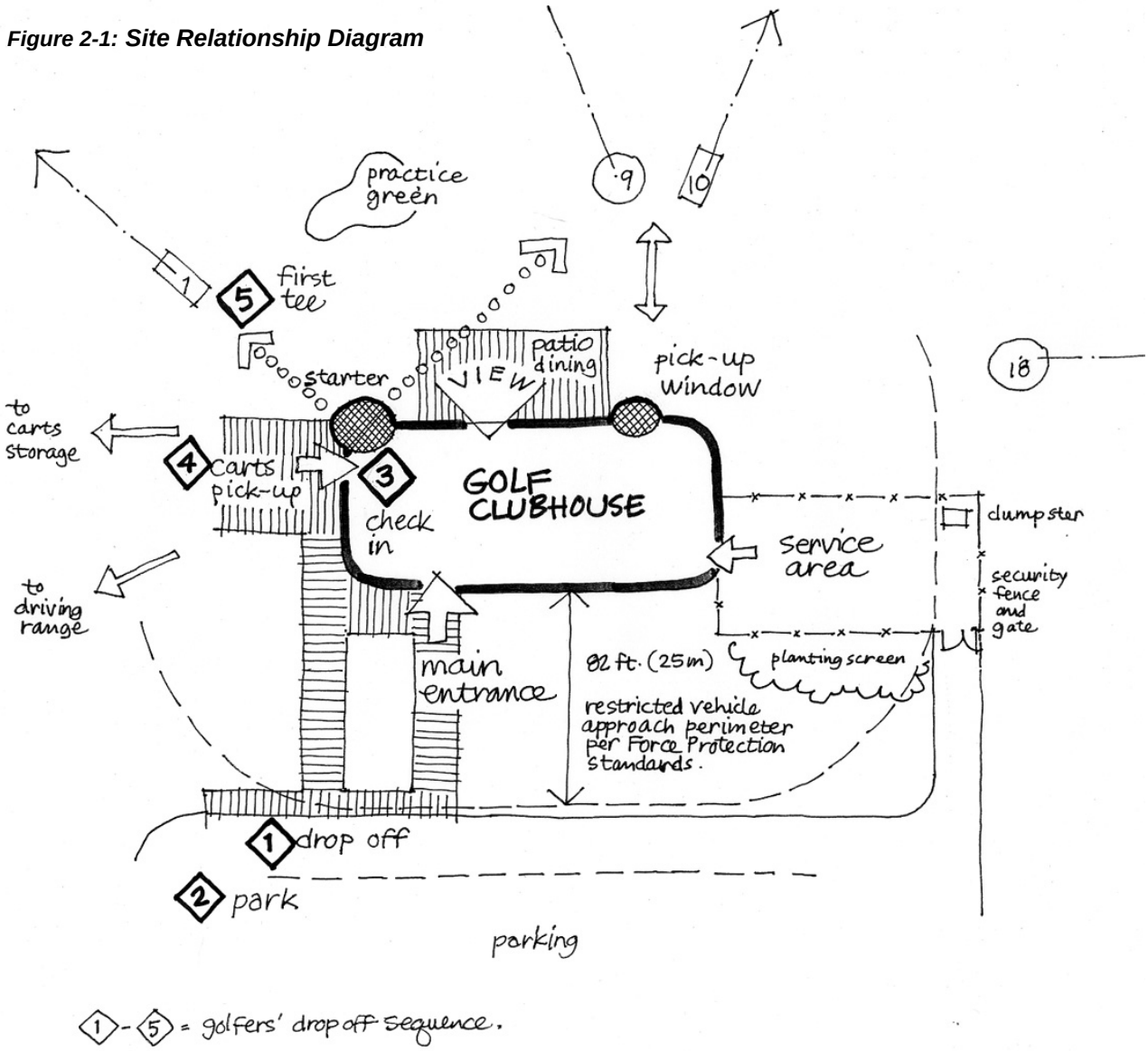
2-2 Site Design and Organization

The design of the site and its organization are dependent on several requirements: relationship to the golf course, the sequence of access required by the patrons and services, the parking area required, and the area of site needed, including that for ancillary spaces (such as driving range and maintenance complex).

2-2.1 Patron Sequences

The Clubhouse has two principal kinds of patrons: golfers and diners. Other visitors, such as shoppers and special function guests, should also be considered. The Clubhouse layout should accommodate the sequences of activities for various types of users.

Figure 2-1: Site Relationship Diagram



The golfers use the Clubhouse as a point of entry to the course. A common sequence for golfers is (with numbers as noted in Fig. 2-1):

1. drop off their passengers and clubs;
2. park their cars;
3. check in at the control desk (usually in the golf shop);
4. pick up their clubs and carts; and
5. proceed to the first tee.

In addition, at the end of their rounds, they will want to return their clubs to their cars in the parking area before returning their carts.

Golfers on the course may want to have a quick snack after they have completed nine or eighteen holes. For this purpose, they should have easy access to the food service and dining areas from the 9th and 18th holes.

Golfers should have the option to obtain convenient food service, “grab and go,” which provides a limited menu of prepared foods. Such service should be available both within the Clubhouse and from outside through a window (protected by a canopy). This “pick up” window should be conveniently accessible to both golfers and food service personnel. This service should be located (as shown in Fig. 2-1) near an area where golfers can eat outside, such as on a dining patio. (Inside, the food service area should have a service line for “grab and go” service that is separate from the a la carte orders that other dining patrons may be using.)

The main approach to the Clubhouse should work for patrons coming for dining, attending special functions, or shopping at the golf shop. The main entrance, drop off area, and parking should be designed to serve them as well. As a marketing technique, Clubhouse patrons should be exposed to all of the activities of the facility, especially the golf shop.

2-2.2 Parking

The peak loading time for the Clubhouse will be when golf tournaments are held. If parking is sufficient to support the Clubhouse staff and patrons at that time, it will work for most other occasions. For tournaments, parking should be provided for golfers, dining patrons, and staff. To calculate the amount of parking, provide one space each for 75 percent of tournament participants (assuming 72 persons per nine holes), add one space for each dining seat available for other patrons at tournament time, and add one space per Clubhouse employee. These figures should be modified based on local conditions – such as the pattern of use of cars on base or a reduction for shared parking in the vicinity.

Examples of the number of spaces that are likely to be needed will range from 120-130 spaces for a small Clubhouse serving 9 holes, 150-160 spaces for a medium size Clubhouse serving 18 holes, and 190-200 spaces for a large Clubhouse, also serving 18 holes. The facility capacities on which these examples are based are detailed further in the guidance included below.

The Clubhouse and access drives should be designed to meet Force Protection Standards as per Unified Facilities Criteria UFC 4-010-01. The Clubhouse will have to be kept 25 meters (approximately 82 feet) from the closest car parking and drop off places. Within this perimeter, movement and storage of golfers and their equipment will be permitted and can take place with the aid of golf carts and golf bag storage areas.

2-2.3 Overall Area and Ancillary Uses

The size of the site needed for the Golf Clubhouse ranges from slightly over three acres to a little over five. Four acres would be a good size for the medium Clubhouse (defined below as containing 8,000 gross square feet) which serves an 18-hole course. These figures include the space needed for Clubhouse service area, for an entry drive and drop-off loop, for outdoor dining, and for the entry sequences and parking described above. The total does *not* include space for other ancillary uses, such as the driving range, practice greens, golf cart storage, or golf course maintenance complex.

The Golf Clubhouse site design should take into account the siting of these ancillary uses. Several principles for siting the Clubhouse in relationship to them are as follows:

- The driving range should be located as close to the Clubhouse as possible.
- The golf cart storage should be as close as possible to the golf shop and starter so that carts can be delivered to patrons close to the control point and first tee.
- Practice greens should be located near the Clubhouse or first tee.
- The golf course maintenance complex can be located at any distance from the Clubhouse but should be screened from patrons view when possible. It should also be placed where it can best serve the golf course.

Most of these uses will not be part of the Golf Clubhouse projects, except for four: namely, the service court, golf cart staging area, golf cart storage facility, and outdoor patio. These areas, usually external to the Clubhouse, are defined further below.

2-2.4 Service Court

Each Golf Clubhouse will require a service court in order to receive supplies and provide a pick-up station for waste products.

The location of the court should be at a distance from the main entrance and adjacent to the food preparation areas. If visible from the course or other public way, it should be screened by fencing or planting. Its size should be sufficient to allow for the movement of the vehicles of expected installation suppliers, which could range from 18-foot vans to 55-foot trailer vehicles. The medium and large Clubhouses should have a loading dock.

The court should contain space for a dumpster or other form of holding equipment for waste pick-up. The placement of such equipment should allow for appropriate access by pick-up vehicles.

The court shall be designed to meet force protection standards. For example, the dumpster shall be placed 82 feet (25 meters) from the facility with the court having a securable fence and gates.

2-2.5 Golf Cart Staging

The golf cart staging area will be used to park carts for access by golfers at the beginning of their play and for returning their carts at the end of play (usually after dropping off their clubs at their cars).

The golf cart staging area should be located near the control desk of the golf shop so that golfers can locate their cart after paying fees. The paved area should be accessible from cart paths, particularly those leading to the first tee. The pavement should be continuous with the entry walkway, allowing accessibility to the parking area. At the entry points to this area

provision should be made for accommodating carry bags or pull carts as the golfers go into the golf shop.

The staging area may be one large area or a set of paths. For daily operations, the staging area should be large enough to handle between one to two hours worth of tee times. To accommodate tournament cart staging, the golf paths extending to the first and tenth tees should be widened.

2-2.6 Golf Cart Storage

[Programming Note: Golf Cart Storage Facilities are a separate category code from Golf Clubhouses. The following information needs to be considered because of their close relationship to the Golf Clubhouse.]

The golf cart storage area should be provided to store and maintain the fleet of golf carts. It should be located far enough from the Clubhouse so that it may be built of utilitarian construction. However, it should be close enough to the Clubhouse so that the carts can be shuttled to the staging area by a minimal staff. As a utilitarian structure, it needs to be obscured from the sight of patrons – perhaps by taking advantage of plantings or changes in grade.

It should be a completely enclosed space large enough to shield the carts from inclement weather to fulfill its purpose of lengthening the life of the carts. The overall area in square feet can be calculated by dividing the number of carts to be stored by .014. The space should contain a wash rack for cleaning the carts and a secure parts storage area. It should be furnished to maintain the fleet, for example by having charging stations for electric carts or gas-pumping apparatus for a gas-powered fleet. The facility shall be designed to meet environmental, safety, and force protection standards.

An alternative location would be to place the golf cart storage facility on a lower level of the Clubhouse. Such an arrangement is usually more expensive than the utilitarian structure mentioned above. However, some conditions may make a basement facility a good location, particularly if the site is sloping, foundation walls are required, and/or the course layout does not provide for alternative locations.

2.2-7 Outdoor Dining – Patio

Luke AFB - Arizona

Use Description:

The outdoor dining terrace should be used by diners and golfers on a regular basis and by tournaments on a scheduled basis. The tournaments will require the most area and special features, as noted below.

Relationships and Character:

- Locate to serve as an extension of the internal dining and function spaces.
- Provide convenient access for golfers coming from the ninth and/or last hole.
- Provide storage areas just off the circulation ways by the entrances to the patio and dining areas for storing golf bags and their carts.
- Locate the patio near the food preparation areas to give convenient access for catering personnel.
- Provide access to suitable storage for the banquet tables and chairs, making allowance for their stacking and transport characteristics.
- Consider adding devices that improve its microclimate to extend its periods of use, including using canopies, radiant heat devices, misters, fans, wind-breaks, and plantings.

Dimensions and Furnishings:

- Provide 12 to 15 square feet per seat for banquet seating for 72 patrons for each 9 holes.

- Provide tables and chairs for the programmed number of casual and banquet patrons, either at rectangular tables or rounds, generally seating 6.
- Provide a space under a roof overhang for the tournament schedule and score boards.
- Delineate two to four spaces for golfers to park their carts while using the Clubhouse facilities, located near access points from the course to the Clubhouse.

Technical Requirements:

- Provide good quality masonry flooring, in unit pavers or textured concrete finishes.
- Define the space with plantings and furnishings (such as a continuous seating edge)
- Provide water spigots for supporting banqueting, cleaning, and landscaping operations.
- Provide public address system access.
- Provide electric outlet and other connections necessary to support entertainment, point of sales equipment, and picnic related food preparation and service.
- Provide a stationary gas hook-up for a portable charbroiler/grill.
- Provide covered and protected storage for a portable charbroiler/grill.

Chapter 3 Building Design

Robins AFB - Georgia

3-1 Exterior Design

The Golf Clubhouse is an important community facility placed in park setting, serving as a gateway to the golf course and as a destination for dining and attending functions. The design of the Clubhouse – its massing, materials, and architectural elements – should be of good quality and be differentiated to express its functions and site relationships. It should have features that are specifically shaped to relate to the spaces within and the features of the site. For example, the massing of the building should make visible the presence of the large dining area and its orientation should give access to views of the course and outdoor functions. Its design should give patrons a clear understanding of its organization, having features that indicate the main entrance (as a focal point), golf shop, and food service areas.

The theme of the architecture should be compatible with the architecture of the region and of the installation. It should meet the architectural compatibility standards established in the installation Comprehensive Plan for the area in which the Clubhouse is set.

3-2 Entry Sequence – Two Options

The Golf Clubhouse serves as an entry point to the golf course for golfers and as a destination for patrons who come to dine and attend special functions. The location of the entry is key to the organization of the overall circulation of the site and facility. Two possible ways to organize these patrons' sequences are illustrated below. The options shown vary: first, by having the principle circulation of patrons go through the Clubhouse (see Fig. 3-1: Facility Space Relationship A) and second, by having the patrons circulate on the golf course side of the Clubhouse, permitting the backside to be dedicated to service deliveries and staff circulation (see Fig. 3-2: Facility Space Relationship B).

Fig. 3-1: Facility Space Relationship – Option A

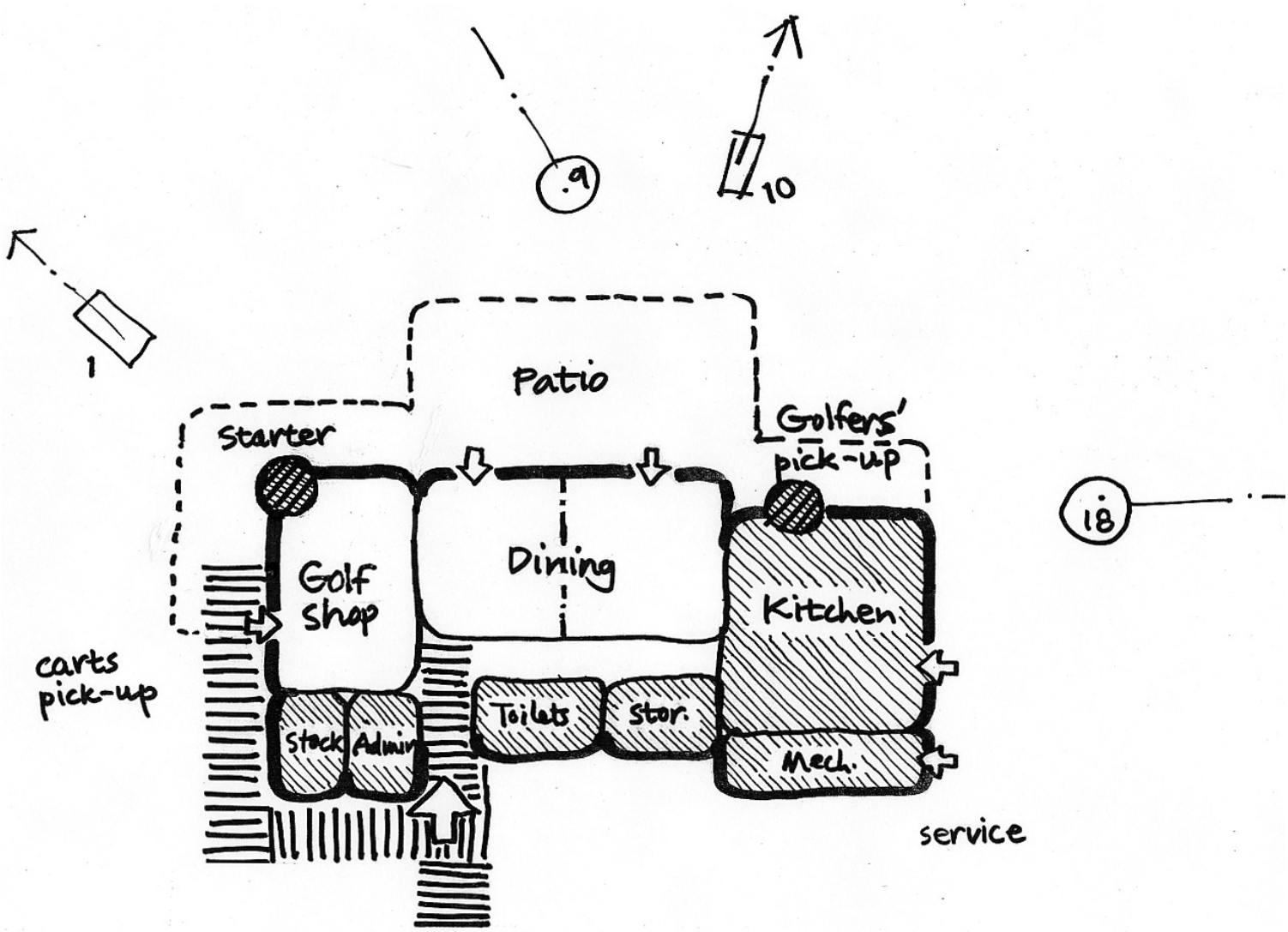
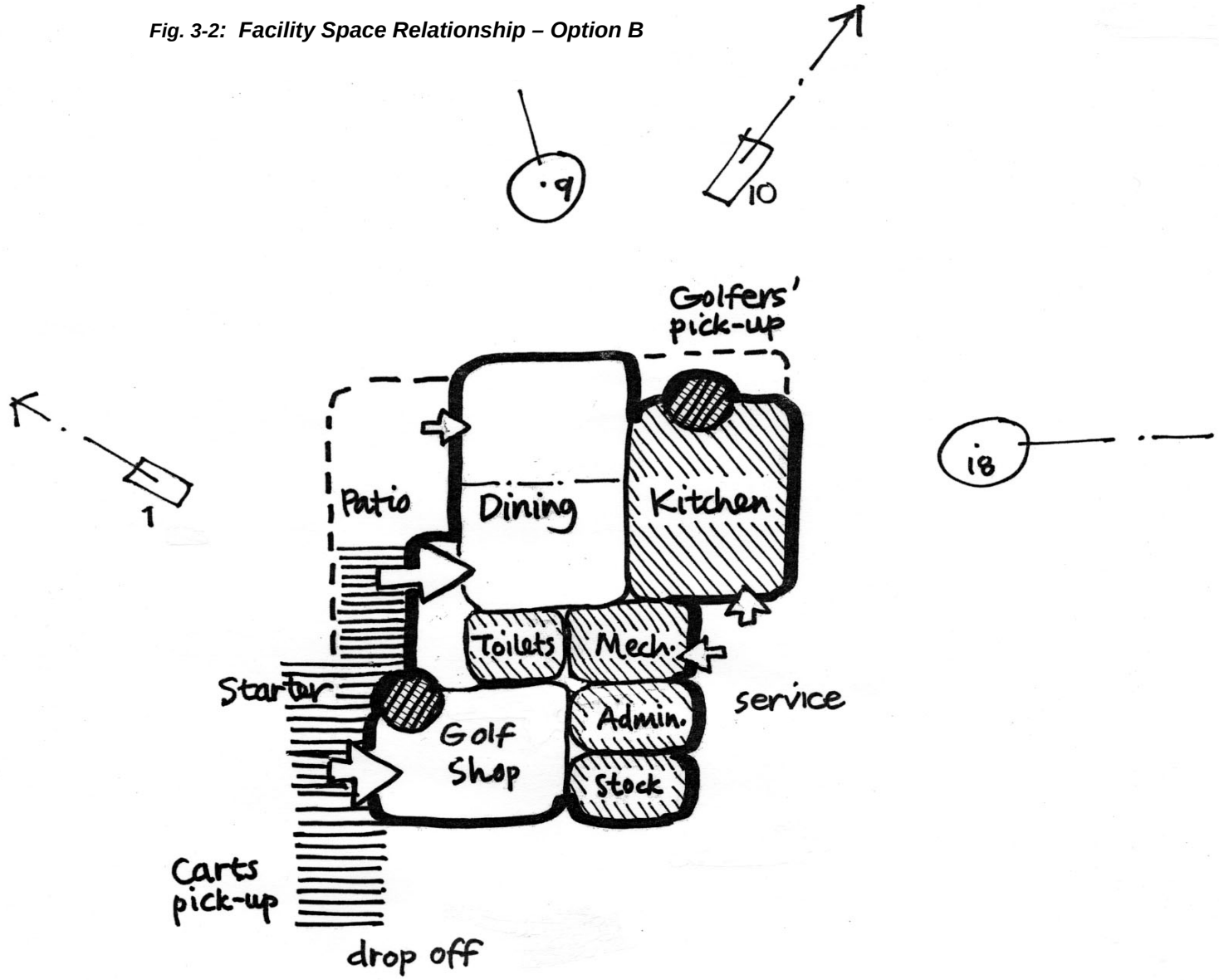


Fig. 3-2: Facility Space Relationship – Option B



Each option has different emphasis. An objective met by Option A, which has the Clubhouse act as a course gateway and dining destination, is that more patrons are exposed to the interior of the Clubhouse and non-golf patrons experience the main entrance as being to the Clubhouse (rather than the golf shop). The Clubhouse then becomes a gateway to the course for the majority of patrons and is more of a center of activities.

The emphasis in Option B, which has patrons circulating outside past the pro-shop to the dining activity, is that all patron access is from the golf course side, allowing the back-side of the facility to be dedicated to staff and delivery functions. In cases where there is a desire to keep staff circulation separate from patron circulation, this organization will permit such a separate arrangement.

3-3 Interior Organization and Character

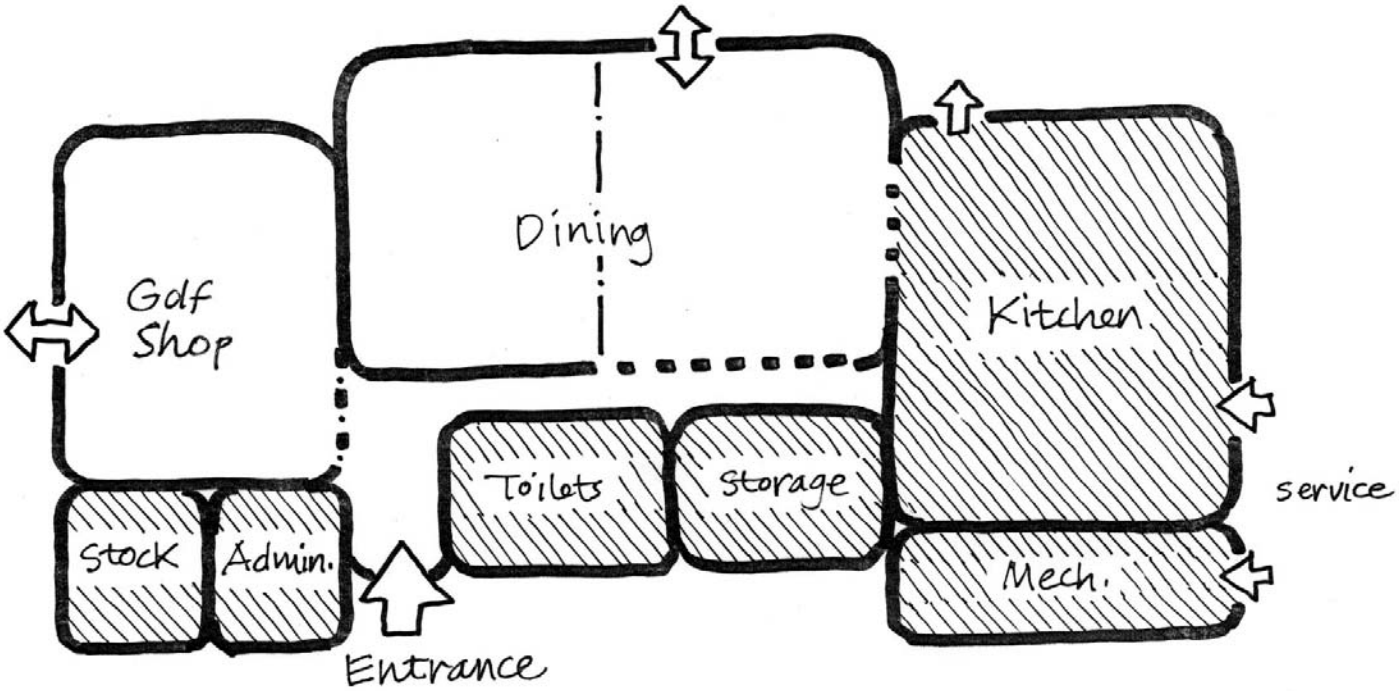
The Clubhouse has two main patron spaces: golf shop and dining/function areas. It is important that all patrons be exposed to both activities from the entry point. The golf shop will contain merchandise for both golfers and non-golfers – so that there are commercial advantages to exposing the golf shop to non-golfing patrons. Therefore, the golf shop should be designed for maximum visibility.

For example, one of its walls should be visible from the entry and dining area, including an ample amount of display areas to expose its contents to people in the Clubhouse.

The dining spaces will be the largest spaces in the facility and will dominate the Clubhouse. Along with the golf shop, their character will give the Clubhouse its identity and hence should be welcoming and of high quality. They should be multi-function spaces designed for seated dining, reception, or special function spaces. They should also be designed to offer views of the golf activity. For example, the dining spaces could be conceived of as a lodge space – a large, high ceiling area with divisions made only by glazed walls and sliding partitions. The food service counter should be secondary, visually subdued by being placed under a soffit or having a screen to conceal it when not in use.

The Clubhouse activities should be thought of as casual in character. In this sense, the facility should be conceived of more as municipal golf course clubhouse, rather than a traditional country club. For example, the Golf Clubhouse generally will not provide fine dining, bar lounge activities, or locker rooms with card playing areas.

Fig.3-3: Facility Organization Diagram



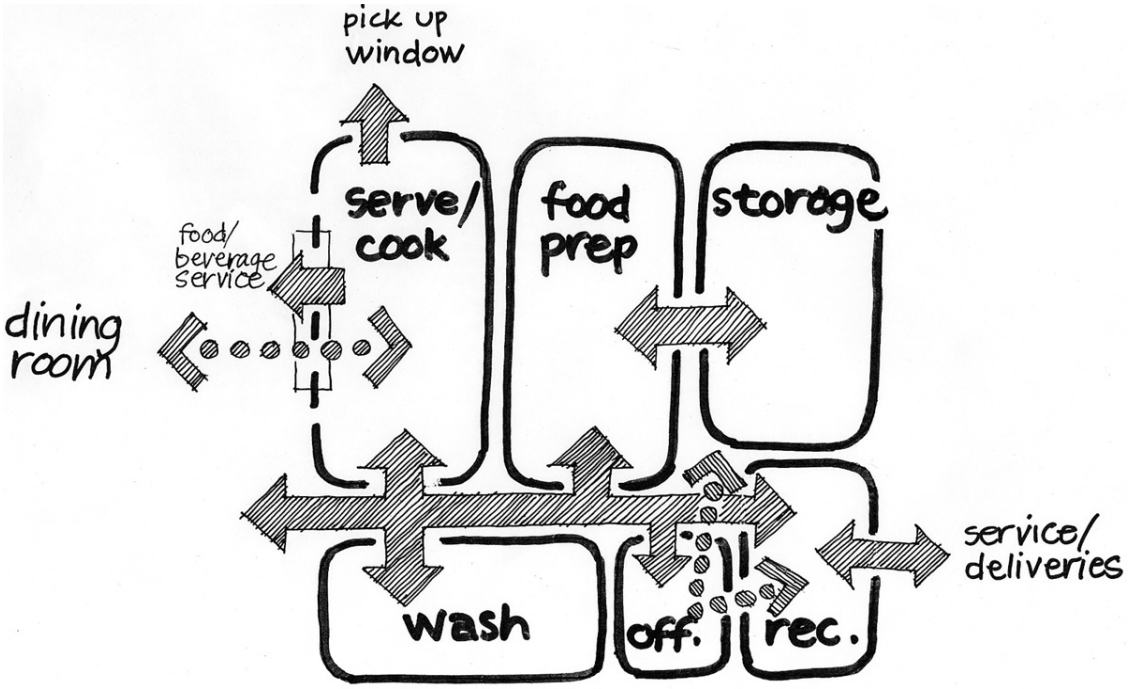
In the development of the interior design, a theme should be established for the Clubhouse. The theme should support the high expectations that patrons will have for the Clubhouse environment, reflect the traditions of the locale, and reinforce the golf and dining activities that take place in the Clubhouse. It is highly recommended that Comprehensive Interior Design (CID), which includes Structural Interior Design (SID), be made an integral part of the design process. The finishes in the patron spaces – particularly the golf shop, general circulation, and function/dining areas – shall be of high quality and durable materials. The kitchen area finishes should be designed to maintain sanitary conditions. The service areas shall be constructed of durable, utilitarian materials with fittings designed to support the specific functions.

3-4 Food Service

The Clubhouse should contain three types of food service: (1) golfers pick-up ("grab and go"), (2) casual a la carte (dining room), and (3) catered functions.

1. The "grab and go" food service will consist of a limited menu of pre-prepared foods. Such service will be provided both from an interior counter and from a sheltered exterior window for golfers (the window should be readily accessible to both the ninth hole and tenth green).
2. The a la carte menu will be more extensive, with cooked to order items common to fast food outlets and cafes. It should be served from an open counter that also dispenses beverages, including alcoholic and non-alcoholic drinks.
3. The service for catered functions will often be related to golf tournament activities. Hence, the menu will be casual, with some food preparation possibly being done outside on a terrace (such as a barbecue). The food preparation area will be limited, especially in the smaller facilities so that if a more formal dining menu is needed, food will be catered from an outside source.

Figure 3-4: Food Service /Area Space Relationship Diagram



3-5 Dining Capacities

The three examples contain differently sized areas for the dining and function room areas, each having a different ability to accommodate tournaments. The sizes of these areas were calculated by using standards both for banquet seating arrangements and for casual dining. In the table below, the total dining area of the large facility is calculated to provide for a full tournament (of 144 seats) while keeping the main dining area open for other patrons. The dining and function areas of the medium facility are sized to allow seating for a full tournament inside, with such a capacity being reached by using the space normally used for open dining. (There would be no space left for open dining patrons when a tournament is accommodated inside). The small facility would not have the capacity for a full tournament to be served inside. The chart below indicates the capacity that a typical Clubhouse might have, with seating calculated by using banquet seating standards. In each chart, the capacities of the Clubhouse are shown for both kinds of seating arrangements.

Table 3-1: Dining Capacities

Standard Dining

CAPACITIES		SMALL	MEDIUM	LARGE
Dining 1 (Ala Carte)	@ 17.5 SF/seat	30	45	60
Dining 2 (Function)	@ 17.5 SF/seat	50	60	50
Dining 3 (large facility only)	@ 17.5 SF/seat	—	—	50
Total Dining Capacity		**80**	**105**	**160**

Banquet Formation (Tournament dining)

CAPACITIES		SMALL	MEDIUM	LARGE
Dining 1 (Ala Carte)	@ 17.5 SF/seat	—	—	60
Dining 1 (Banquet)	@ 12 SF/seat	44	62	—
Dining 2 (Banquet)	@ 12 SF/seat	73	82	72
Dining 3 (Banquet)	@ 12 SF/seat	—	—	72
Total Banquet Capacity		**117**	**144**	**144**

Chapter 4 Functional Area Criteria

McChord AFB - Washington

Each functional area within a Golf Clubhouse is listed below. The description of each of these spaces includes the following types of information:

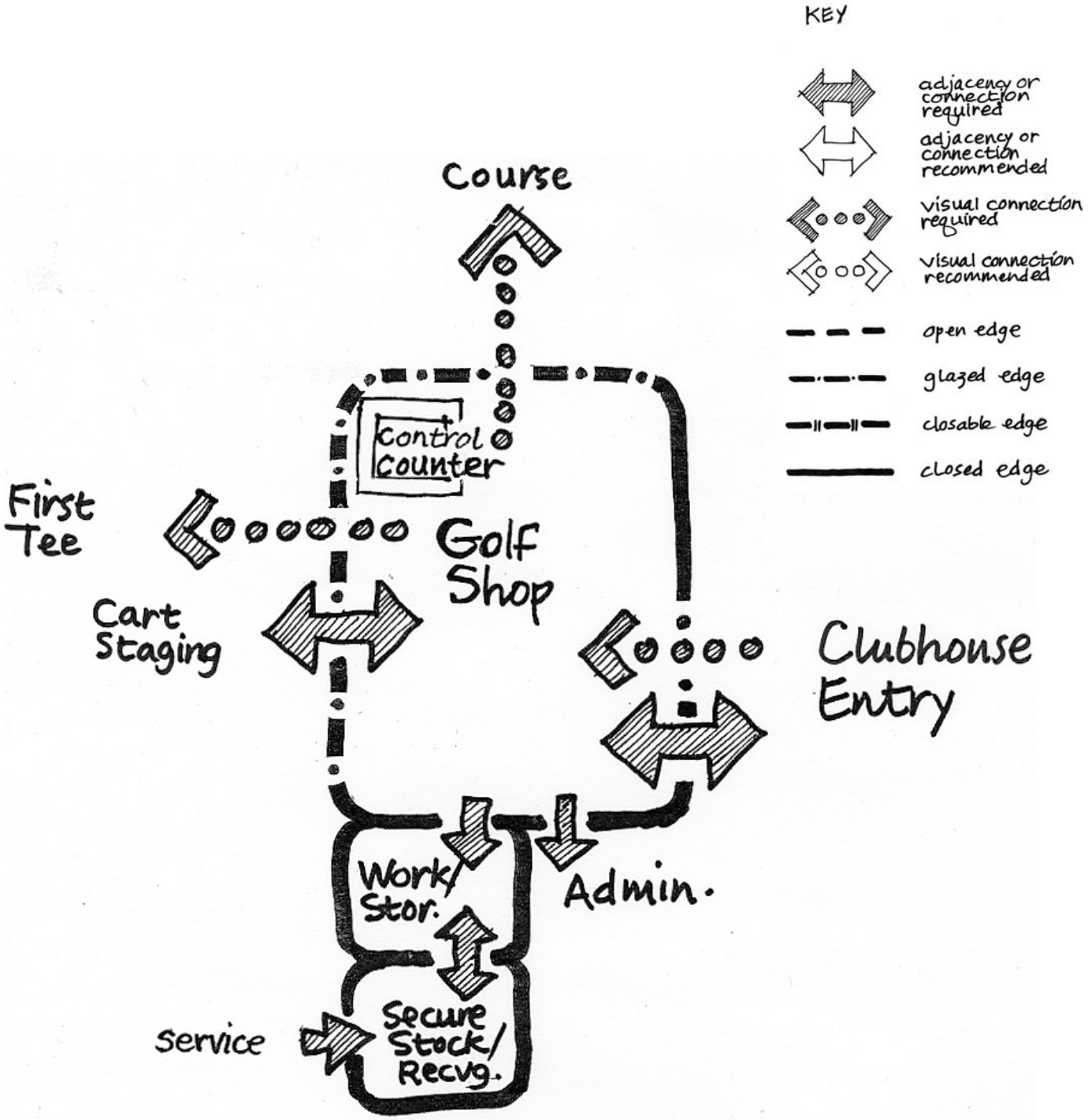
- Use description
- Relationships and character
- Dimensions and furnishings
- Finishes / Special Requirements (core spaces only, with expanded sections for Food Service areas.)

4-1 Golf Shop Area

The golf shop will be primarily the place for golfers to begin their access to the course: check-in, pay green fees, and arrange for other services. It will also provide retail services to golfers and others including items to support golf activity, such as clothing and golfing equipment. The golf shop will include a sales floor with control counter, a secure area for receiving, holding, and working on inventory, and an area for making repairs. An area also may be provided for storing and issuing rental clubs.

The shop will be a modest retail operation for golf equipment, basically providing smaller materials such as balls, tees, and accessories. The golf shop should have clothing sales for golfers and other patrons. The shop should carry lines of men's and women's clothing, which may include golf shoes, shirts, jackets, pants, hats and other incidental items.

Fig. 4-1: Golf Shop Space Relationship Diagram



4-1.1 Sales Floor

Ramstein AB - Germany

Use Description:

The success of the golf shop comes from supporting the golf program both by aiding it financially as well as supporting golf activities. Merchandise should be limited to inventory that turns over reasonably well and is economical to keep in stock. While the golf shop should provide essentials for golfers, its inventory should be based on market demand. Items of special interest should be considered as special orders.

The sales floor is for marketing material needed by golfers, both equipment and clothing. It should have three kinds of goods: essentials such as golf balls, tees, gloves, golf shoes, and other accessories; clothing and souvenirs that appeal both to golfers and other visitors to the shop; and, more extensive equipment, such as lines of clubs that the golf professional may use in outfitting people in the teaching programs.

The shop should have internet access for use by staff to order a full array of items, including golf clubs. The inventory of resale clubs should be ordered by the golf professional. Hence, provision should be made to carry a few lines of clubs, with a fitting station and space suitable for their display.

The floor should be arranged in zones for both good merchandising and supporting the golf activity. The desk shall provide good views of the start of the course and control entries to the premises. Essentials and impulse purchase items should be located in the high circulation zone, near the entrances and counters. Clothing and other merchandise shall be arranged in separate zones to enable easy comparison shopping. Equipment try out zones and fitting areas should be available for clubs and shoes.

Relationships and Character:

- Locate the golf shop near the entrance for golfers, with views from the control counter to the start of the course and the tenth tee.
- Locate the golf shop on the path of all users of the Clubhouse, providing them with a good view of the merchandise. Glaze the wall adjacent to the Clubhouse circulation.
- Detail the furnishings in a consistent manner to develop a coherent appearance. Give the detailing a character that supports the theme of the whole Clubhouse.
- Have direct access to the repair area and rental club storage and good access to the inventory/receiving area.
- Provide convenient access for the manager.

Dimensions and Furnishings:

- Provide a display area of at least 900 square feet.
- Provide a minimum dimension of 16 feet, allowing for two lines of merchandise and central aisle.
- Furnish the sales area with well coordinated display racks, shelving, and tables.
- Provide a computer based handicap posting station with extended weather forecasts (or locate outside the golf shop – either in the general circulation area or a sheltered exterior area).

Finishes/Special Requirements:

- Provide adjustable accent lighting for product display elements.
- A lighting level of 50-100 FC is recommended for display.
- Consider skylights for ambient light.
- See Chapter 5 for Specialized Requirements.

4-1.2 Control Counter

Use description:

The control counter will be the central control for the golf course and for the golf shop. It will have workstations for controlling these two operations, including computers to schedule and control the use of the golf course and cash register with point of sale controls.

As the control area may contain the starter's station, ensure that it is located to give good visual access to the golf cart staging area and the first tee (and preferably, the tenth tee as well). The starter may be responsible for collecting greens fees and golf cart rentals. The starter's workstation shall be near the door to the exterior of the Clubhouse that accesses the golf course.

The retail workstation will also be a cash handling operation. Its operator should be able to oversee the sales area and control the entrances to the golf shop.

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Relationships and Character:

- Provide views from the counter to supervise the golf cart staging area, start of the course, and the tenth tee.
- Locate to supervise and be visible to the patrons of the sales area.
- Locate so that the entry to the repair area and inventory storage is immediately adjacent.
- Design the counter with details and materials to be consistent with those of the theme of the Clubhouse.
- Place adjacent to the operations office to allow for its staff to easily assist the golf shop staff during peak periods or to control the golf shop during off season or non-peak hours.
- Locate and lay out to encourage patrons to encounter the maximum number of merchandise areas.

Dimensions and Furnishings:

- Provide adequate area with a minimum area of 120 square feet.
- Provide a minimum of 8 linear feet of counter space to face the sales area, 12 feet for the medium and larger Clubhouses.

- Provide one workstation in the small Clubhouse and two work stations in the larger ones, with at least 36" depth and appropriate communications connections.
- Provide cash register with point of sale equipment and security controls (such as bar code reader, security tag demagnetizer, credit card charge recording and verification).
- Provide a durable surface on which customers can write.
- Provide a data transmission system including extended weather forecasts.

Finishes/Special Requirements:

- Assure that the finishes of the control counter match those of the larger room.
- Provide communication connections, including ones for the Clubhouse computer network, public address system, and the point of sales system.
- Lighting level: provide an average of 50 FC.
- See Chapter 6 for Specialized Requirements.

4-1.3 Inventory/Receiving

Use Description:

This area will provide a secure setting where merchandise for the golf shop can be received, logged into inventory, and processed for sales. Hence, this room will contain three kinds of support areas: (1) a work station for logging in inventory, (2) an open work space for opening parcels, spreading out, and tagging items, and (3) shelving for storing inventory.

Relationships and Character:

- Place the receiving area on an exterior wall adjacent to an area accessible by parcel delivery vehicles.
- Locate the inventory area so that it is near and conveniently accessible to the sales floor.
- Consider making this space a sub-area of a larger space that also contains the repair and rental club storage area, perhaps separated from it by an open metal divider that would allow the Inventory/Receiving area to be secure.
- Design finishes so that the area is durable and utilitarian.

Dimensions and Furnishings:

- Size to be an area approximately 10 percent of the sales floor, with minimum area of 100 square feet.
- Design the shelving so that there is an open space at the center for processing merchandise, at least five feet wide.
- Include a work station surface of approximately 48" by 30" for tracking inventory.
- Place 12" deep shelving on the walls, allowing some space for storing vertical objects.

Finishes/Special Requirements:

- Provide resilient flooring and gypsum board walls, and an acoustic tile ceiling.
- Provide computer connections to the management system of golf shop for logging in received items and tracking inventory.

- Lighting level: provide an average of 50 FC.
- See Chapter 6 for Specialized Requirements.

4-1.4 Repair/Rental Golf Club Storage

Use Description:

The golf shop will offer service to rent golf clubs and to make minor adjustments and repairs to golf equipment, primarily golf clubs. The repair shop will be the place to do such work and to store clubs for rental. The golf club storage will consist of a limited selection of rental clubs stored on horizontal racks.

Relationships and Character:

- Locate the repair work station and golf club storage near the counter of the sales area.
- Design finishes so that the area is utilitarian in character.

Dimensions and Furnishings:

- The overall area should be large enough to accommodate both a workbench and rental golf club storage.
- Provide a 60 inch by 30 inch workbench, including stool or chair.
- Provide 60 inches of 10-inch shelving for tools and equipment above the work surface.
- Provide two linear feet of space next to the workbench with rails for storing golf clubs upright.
- Provide rental club storage on shelves or cubbies bag length deep, with 4 feet clear space for accessing clubs.

Finishes/Special Requirements:

- Provide resilient flooring or exposed concrete floors, masonry units or gypsum board walls, and an acoustic tile ceiling.
- The average lighting level should be 75 -100 FC.
- Provide adequate exhaust ventilation to support the club repair functions.
- See Chapter 6 for Specialized Requirements.

4-1.5 Dressing Rooms (optional)

Use Description:

The larger golf shops, especially ones on remote installations, may offer a large stock of clothing. Such shops should offer dressing areas for customers. The areas should be large enough to try on clothes and view prospective purchases.

Relationships and Character:

- Locate the dressing rooms directly off of the sales area.
- Detail consistent with the quality and theme of the golf shop.

Dimensions and Furnishings:

- Provide a floor area approximately five feet square.
- Furnish with a full length mirror on one wall, a bench, and clothes hooks.
- Provide ceiling mounted down lighting of approximately 50 to 70 foot candles.
- Develop a key locking system controlled by sales counter personnel.

4-2 Administration

The administration of the golf programs will be conducted from the administrative area of the Golf Clubhouse. The administrative area is an office suite that will serve as information center, reception area, event sales center, and central administration for golf course and Clubhouse program operations.

This area will provide spaces for the manager and events coordinator. Both of these spaces will be controlled by an operations center that will provide clerical and support services to the manager and events coordinator.

The administration should be located to control the entry and activities of the Clubhouse. It should be designed to work as an information center and hence be located near the entrance to the Clubhouse. It will also serve as the place for coordinating Clubhouse staff and should be located to afford managerial staff access to employees. The area should contain the Time Management System (TMX) station, although a second station could be located near the food service manager and receiving entrance in medium and large facilities.

4-2.1 Operations

Use Description:

The operations space will be the front office for the Clubhouse, containing the work station of the manager's clerical assistant. It will be used for greeting visitors, storing records, and controlling the flow of personnel. The office should also be secure so that it can be used as a place for handling cash (although large amounts that come from the food service operations and golf shop typically should be secured in places elsewhere on the installation).

Relationships and Character:

- Locate the operations area near the main entrance to the Clubhouse, adjacent to and with direct access to the offices of the manager and events coordinator.
- Locate the operations office so that the managerial personnel can easily access the rest of the facility.
- Afford good visibility to this office for visitors, perhaps by glazing a good portion of the wall to the Clubhouse circulation.
- Design the space and furnishings as a good quality office complex, whose details support the theme of the whole Clubhouse.
- Locate so that the operations staff can see and aid the staff of the golf shop control counter, especially during off-season or non-peak times when the golf shop staff is limited.

Dimensions and Furnishings:

- Provide a minimum of eight feet in width.

- Furnish the office with a desk and chair for the operations officer, two armchairs for waiting visitors, file cabinets, and a work counter (containing computer based printing and reproduction equipment) for such activities as graphics production and document assembly.
- Install the main station for employee check-in, including a time management (TMX) system. (Consider alternate locations based on operational needs.)
- Provide a safe for cash handling operations (to be located to meet installation security standards).

Finishes/Special Requirements:

- Provide gypsum board walls, carpet flooring and acoustical tile ceilings. The décor should be consistent with that of the rest of the administrative area.
- Provide communications connections to the public address system, computer based golf program management records, and point of sale system.
- The average lighting level should be 50 FC, with the ability to manually reduce lighting level for computer use.
- See Chapter 6 for Specialized Requirements.

4-2.2 Manager's Office

Use Description:

The manager's office, in combination with the operations office, will be the central administrative center for the golf program. The office should be large enough and acoustically isolated for the manager to have private conversations with staff and visitors.

It should be located so that the manager has convenient access to the operations staff and could also supervise the receiving and inventory handling activities.

Relationships and Character:

- Locate the manager's office near the golf shop with easy access to it.
- Locate the office adjacent to the operations center, allowing the operations clerk to control access to the manager's office.
- Consider having some of the wall to the operations area be glass, to give the office an open, hospitable character.
- If possible, provide a view of the golf shop control counter so that the manager can aid its staff, especially when golf shop staff is limited.
- Design the space and furnishings as a good quality office complex, whose details support the theme of the whole Clubhouse.
- The manager's office will contain confidential records and should be kept secure.

Dimensions and Furnishings:

- Provide at least 120 square feet, allowing for the manager to have two guests in conference format.
- Provide one desk, a desk chair, two guest chairs, and file cabinets.

- Make provisions for a safe to support cash handling operations (to be located to meet installation security standards).

Finishes/Special Requirements:

- Provide acoustical isolation so that the manager can have private conversations with staff and visitors.
- Provide gypsum board walls, carpet flooring and acoustical tile ceilings. The décor should be consistent with that of the rest of the administrative area.
- Provide adequate lighting for work efficiency. The average lighting level should be 50 FC, with the ability to manually reduce lighting level for computer use.
- Provide communications connections to the public address system, computer-based golf program management records, and point of sale system.
- See Chapter 6 for Specialized Requirements.

4-2.3 Events/Catering Office

Use Description:

This area will house an events coordinator who is responsible for marketing and organizing functions, special events, and catering services that occur within the golf program and/or Clubhouse. The events coordinator will also use the office to coordinate the booking of catered events and special functions.

In carrying out these tasks, the events coordinator will work frequently with the public and closely with the operations officer, manager, and other golf program personnel.

Relationships and Character:

- Locate the office adjacent to the operations center, allowing the operations clerk to control access to the events office.
- Consider having some of the wall to the operations area be glass, to give the office an open, hospitable character.
- Design the space and furnishings as a good quality office complex, whose details support the theme of the whole Clubhouse.

Dimensions and Furnishings:

- Provide at least 140 square feet (as cited in Table 5-3), allowing for the event planner to have three guests in conference format.
- Provide one desk, a desk chair, three guest chairs, and file cabinets.

Finishes/Special Requirements:

- Provide gypsum board walls, carpet flooring and acoustical tile ceilings. The décor should be consistent with that of the rest of the administrative area.
- Provide communications connections to the public address system, computer based golf program management records, and point of sale system.
- The average lighting level should be 50 FC, with the ability to manually reduce lighting level for computer use.
- See Chapter 6 for Specialized Requirements.

4-2.4 Assistant Manager's Office (optional)

Use Description:

In the larger Clubhouses, the manager will need an assistant. The assistant's office will function similar to that of the manager.

Relationships and Character:

- Locate the office adjacent to the operations center, allowing the operations clerk to control access to the assistant manager's office.
- Consider having some of the wall to the operations area be glass, to give the office an open, hospitable character.
- Design the space and furnishings as a good quality office complex, whose details support the theme of the whole Clubhouse.

Dimensions and Furnishings:

- Provide 120 square feet, allowing for the assistant manager to have two guests in conference format.
- Provide one desk, a desk chair, two guest chairs, and file cabinets.
- The character of the room and its furnishings should match those of the administrative complex.

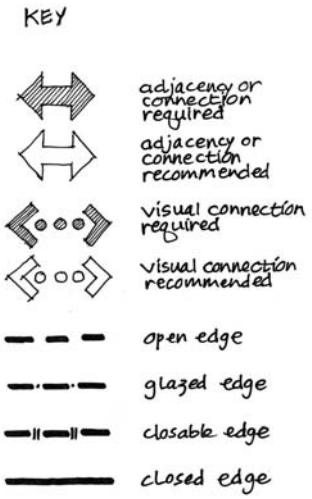
4-3 Dining

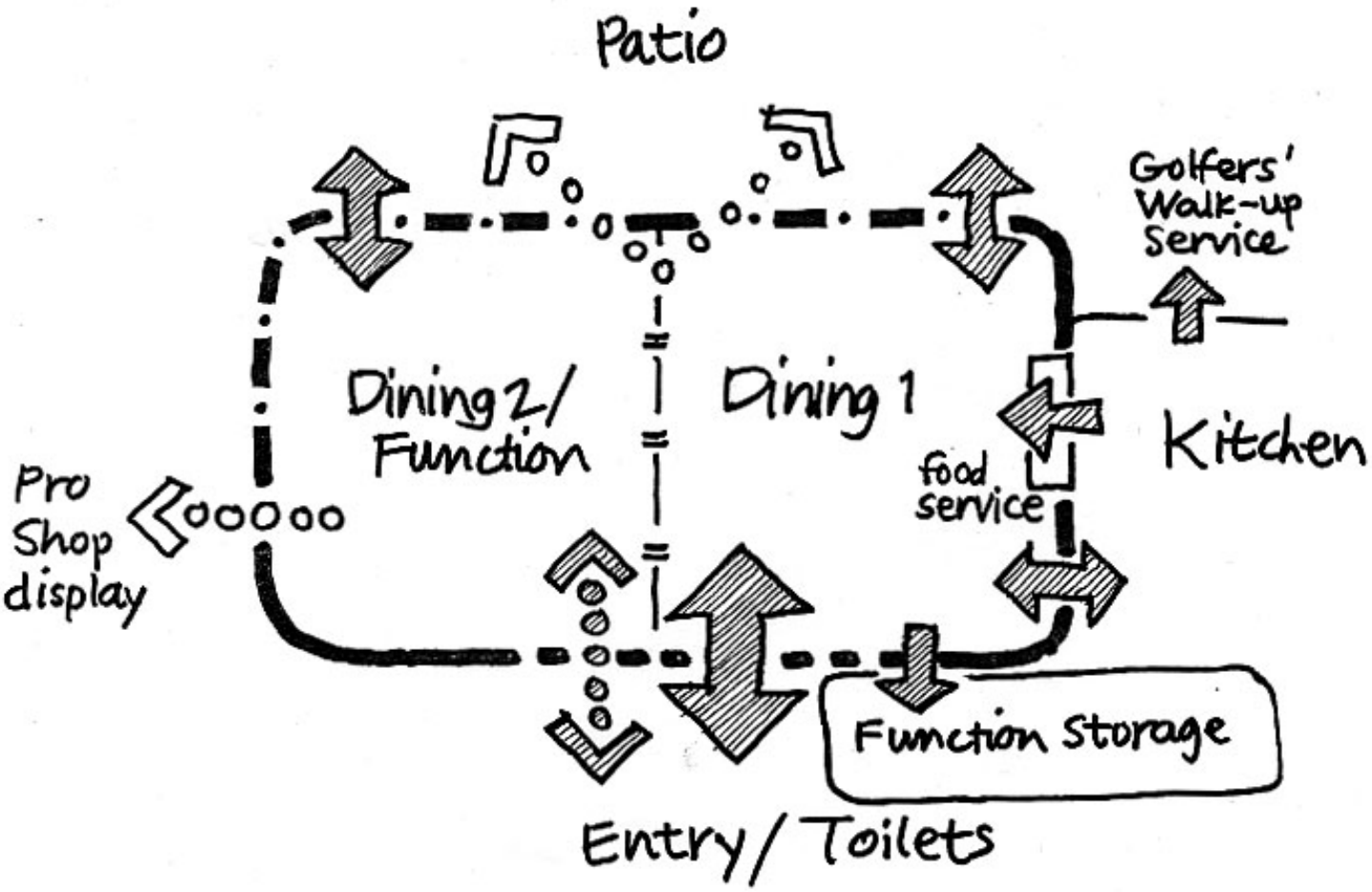
This area includes the indoor dining areas and their support spaces. These spaces will include an open dining area, a closable function area, and appropriate storage spaces. These spaces are the visual focus of the Golf Clubhouse. They also can be used as the circulation link between all of the patron activity and service areas – including the entry, golf shop, food service counter, toilets, outdoor dining patio, and golf activities.

All of the Clubhouse activities should be tied together by the dining spaces. This space should have an identity that is dignified, casual, and spacious. It should provide a good atmosphere for socializing and casual dining, the quality of which is enhanced by having good views of the golf activities.

Provide handicap access by providing a flat floor throughout this area.

Figure 4-2: Dining Area Relationship Diagram




Patio
Golfers' Walk-up Service
Dining 2/ Function
Dining 1
Kitchen
food service
Pro Shop display
Function Storage
Entry/ Toilets

4-3.1 Dining Room 1

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Use Description:

When the Clubhouse is open, the dining room is used for open dining for all patrons. It will also be used for special functions in the small and medium sized Clubhouses, but will be open to patrons at all times in the large facilities, even when the largest functions are taking place.

The main activity will be casual dining, offered to both golfers and other patrons who come to the dining room. The character of the space shall be dominated by having scenic views, allowing the patrons to have one of the best quality surroundings and dining atmosphere on the base.

Relationships and Character:

- Afford good visibility to the golf course and good access to the exterior dining terrace.
- Have good access and visibility to the food service counter.
- Minimize the presence of the food service counter, not permitting it to dominate the character of the dining space. Consider having the food service counter located under a lowered ceiling, allowing the higher dining space to have its own character.
- Assure that both the entrance and toilet rooms are readily accessible to the dining spaces.
- Provide access to the golf shop, giving good views of the merchandise as much as possible to all entering the facility.

- Provide storage space for added seating, buffet serving equipment, and seasonal decorations.

Dimensions and Furnishings:

- Provide circulation space in the serving counter area, at least eight feet wide so that patrons accessing the counter do not interfere with dining activities.
- Provide condiment kiosks and self-service beverage stations.
- Provide 17.5 square feet per seat in the dining area for casual dining activity.
- Provide a mix of movable, rectangular tables (including ones convertible to rounds) for four seats, allowing them to be reconfigured for different events.
- Provide space on the wall between the dining area and Clubhouse entrance for a computer touch screen through which records of handicaps and scores can be accessed.
- Provide access to television monitor(s).
- Consider providing a fireplace or other focal point to give a casual atmosphere (such as a lodge) to the facility

Finishes/Special Requirements:

- Provide patterned, spike resistant carpet where dining tables will be located.
- Consider non-slip tile or other impervious surfaces where there is heavy patron circulation, such as by the food service counter and in the entry areas.
- Consider providing a high ceiling, such as a cathedral ceiling, with lower ceiling areas for service spaces and possibly at entry.
- Provide durable, attractive wall finishes, such as brick, wood, or painted or gypsum wallboard with site-applied vinyl wall fabric. (Do not use prefinished wallboard.)
- Provide incandescent lighting, utilizing adjustable accent lighting for dramatic effect. Consider indirect fluorescent lighting in coves. Avoid conventional exposed fluorescent lighting. An average lighting level of 30 FC is recommended.
- See Chapter 6 for Specialized Requirements.

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4-3.2 Dining Room 2 / Function Space

Use Description:

The second dining area will serve as a place to hold special functions. To do so it should be able to be enclosed, to afford sound isolation from the other spaces in the facility. Since much of the time it will also be serving as expansion to the dining area, it should be primarily designed to be part of the large open space at the center of the facility.

Relationships and Character:

- Be open to and appear to be part of the other dining spaces.
- Afford views and access to the terrace, which is likely to serve as part of the tournament activity.
- Allow good access to the entry and accessibility to the toilet areas.
- Be able to be closed off, acoustically, from the other spaces, perhaps through a folding partition to the dining area and by having glazed walls (with curtains) separating it from other adjacent spaces (such as the golf shop and main circulation).
- Provide access to suitable storage for the banquet tables and chairs, making allowance for their stacking and transport characteristics.

Dimensions and Furnishings:

- Provide 12 square feet per seat for banquet seating.
- Provide tables and chairs for the programmed number of banquet patrons, either at rectangular tables or rounds, generally seating eight.

- Provide support for visual presentations such as a drop down screen and connections for video equipment (such as plasma screen television, VCR's, and camcorders).

Finishes/Special Requirements:

- Provide finishes that match the dining space (see above).
- Provide light controlling devices such as room darkening blinds and/or draperies.
- Provide dimming controls for lighting to achieve varied lighting levels.
- Provide electric outlet and communications connections for projection capabilities.
- Provide a speaker connected to the public address system.
- Lighting level: provide 30 FC.
- See Chapter 6 for Specialized Requirements.

4-3.3 Function Storage

Use Description:

The function room will need to accommodate various activities: casual seating, small lectures, meetings, and parties. These varied activities will require different furnishing arrangements and meeting support equipment: such as buffet service, audio-visual aids, seasonal and event décor, meeting support equipment such as easels and display pads, which will require storage space.

The function storage should be sized to accommodate the tables and chairs necessary to increase the capacity of the dining and function areas to serve to a maximum capacity. This area can also function as a staging area for serving functions.

Relationships and Character:

- Locate the storage area to be easily accessible to the function room and to all dining spaces.
- Provide utilitarian finishes.

Dimensions and Furnishings:

- Provide wall-mounted storage cabinets for additional storage of small serving items.
- Provide shelving on at least one wall that is 18 inches deep for storing seasonal decorations and meeting support equipment.
- Provide a mobile, flattop worktable that can be used for staging functions.
- Size the room to accommodate the full number of stacking chairs and tables required for functions.
- Allow sufficient floor space for the carts on which the stacking tables and chairs will be transported.

Finishes/Special Requirements:

- Provide resilient flooring or exposed concrete floors, masonry units or gypsum board walls, and an acoustic tile ceiling.
- The average lighting level should be 30 FC.
- See Chapter 6 for Specialized Requirements.

4-4 Food Service Area

The food service shall be casual and of three types. The types will include “grab and go” (fast service permitting take out), a la carte dining (from a menu restricted to café style dining), and casual catered service. For golfers, “grab and go” service will be offered through an outside window, accessible without needing to enter the Clubhouse. For open dining, the food will be self service, food being ordered, picked up, and paid for at a counter, both in “grab and go” and a la carte lines. Special functions will have buffet food service and may often involve on-site food preparation such as barbecue. Facilities should also be provided for outdoor food service, particularly for tournament banquets. For such purposes, provisions should be made for supporting large outdoor grilles and portable smoker units. Consideration should also be given for preparing local food specialties.

4-4.1 Food Service Counter with Pick-up Window

Use Description:

The cooking and service counter with pick-up window will be the primary production area for both the “grab and go” and a la carte styles of dining. All hot food production and beverage service will be generated in this area. This will be designed as a “Display Cooking” style of service, where guests can watch their food be produced. Smaller Clubhouses could relocate cooking to the preparation area and pass food through a window into the cooking serving line area.

“Grab and go” service will be provided both at the pick-up window and at the counter inside the Clubhouse. In larger facilities, the point of sale system that serves the pickup window should be positioned so that it serves the inside counter as well. This arrangement will permit serving a second line inside that gives priority to the customers in need of quick service, such as the golfers who are in the midst of play.

Relationships and Character:

- Provide access to the food preparation and storage areas.
- Provide good visibility from the dining room.
- Beverage service should be central to the grab and go pick up counter and the cooking line pick up counter. Beverages include soft drinks, draft beer and bottled beer, wine, and liquor (miniatures).
- Located adjacent to the counter should be a condiment station. This station should function as the area in which the customer can get any cold toppings or condiments, napkins and utensils.

Dimensions and Furnishings:

- Aisle width in the serving area should be a minimum of 4'-0" and a maximum of 5'-0".
- Provide 24" wide overhang on the front counter for food placement.
- Allow a 3'-0" to 3'-6" depth for equipment, on both the cooking battery side and the service side.
- Allow a 2'-6" to 3'-0" depth for counters and undercounter equipment.
- The overall length of the serving area should be between 28'-0" to 30'-0".
- Larger facilities will require additional point-of-sale systems.
- Allow for clear counter top space for display racks for snacks, chips or cookies.

- Provide menu boards whose design supports the dining room character. Do not use menu boards supplied to advertise commercial products.

Room Finishes:

Refer to Chapter 6 for technical details for food service areas.

Technical Requirements:

- Provide electric outlets along both counters.
- Provide a data port connection for the point-of-sale system.
- Natural gas for cooking is preferred.
- Soft drink conduits are to be provided under the slab, originating from food storage area.
- The HVAC system is to be sized for odor control and negative pressure.
- Exhaust hoods should supply make-up air equal to 80 percent of the exhaust.
- 24-Hour dedicated electrical circuit is to be provided for an alarm system.
- The lighting level should be 70 -100 FC.
- See Chapter 6 for Specialized Requirements.

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4-4.2 Food Preparation

Use Description:

The food preparation area will be where most of the grab and go items will be prepared. It is also where main food items for the a la carte service items will be prepped prior to storage in the cooking serving line area. All dish and ware washing functions will occur in this area along with ice production.

Relationships and Character:

- This area should be central to the food service counter and all storage facilities.
- There should be access to the function areas for dishwashing purposes.
- This area should be not be visible to the public.
- Ware-washing, soda dispensing systems, ice, and janitor's sinks should be kept separate from the food prep areas.

Dimensions and Furnishings:

- This area should be fairly open to allow for mobile work stations.
- Allow 2'-6″ to 3'-0″ depth for all work tables, sinks, and refrigerators.
- Aisle width in prep area should be a minimum of 4'-0″ and a maximum of 5'-0″.
- The overall length of the prep area should be between 28'-0″ to 30'-0″.
- The minimum space requirements for the dishwashing equipment are approximately 2'-0″ wide by 13'-0″ long.

Room Finishes:

Refer to Chapter 6 for technical details for food service areas.

Technical Requirements:

- Provide three-compartment sinks, as required by code, for the ware washing area.
- Provide a handwashing sink.
- Dish machines are optional for all facilities. If banqueting, catering, or lounge services will be offered that require service on dishware, the machine should be highly considered for purchase. It is unlikely to be necessary in smaller facilities that are utilizing all disposable plates and utensils. Should a dish machine be used, a disposer should be installed.
- Provide electrical outlets for mobile equipment.
- The HVAC system is to be sized for odor control and negative pressure. Provide an exhaust hood over cooking equipment.
- A pulper may be preferred in some jurisdictions in lieu of a garbage disposal unit.
- Provide 140º F incoming temperature to kitchen for dishwasher (from a dedicated water heater).
- Provide a remote and/or fully recessed grease trap.
- Provide a light level of 70-100 FC.
- See Chapter 6 for other specialized requirements.

4-4.3 Food Storage

Use Description:

All dry goods shall be stored in this storage area. This area should primarily be used for storing food products only, but could accommodate small wares such as disposable plates, cups and utensils.

Relationships and Character:

This area should be located centrally to the food preparation area and the supervisor, delivery area. The dry storage area should be securable with a system under the control of the food service manager.

Dimensions and Furnishings:

- Allow room for shelving and 3 feet of circulation space around each shelf.
- Allow a minimum width or depth of 7'-6" interior dimension for small facilities and 10'-0" for large and medium facilities.
- Smaller facilities may not require a dry storage facility of this size. The minimum requirements to consider when designing the storage space is 24" deep shelving (length as required) and 3'-0" wide aisles. A minimum of two 5'-0" long shelves should be considered.
- Follow code requirements for food storage, such as restriction requiring food to be stored at least 10" above the floor.

Room Finishes:

Refer to Chapter 6 for technical details for food service areas

Technical Requirements:

- Soda conduits are to be located under the slab – ending in the serving line area.
- Size of the food storage area will vary according to frequency of deliveries as well as the size of the facility.
- Provide a light level of 30 FC.
- See Chapter 6 for Specialized Requirements.

4-4.4 Refrigerator/Freezer

Use Description:

The refrigerator and freezer areas will be used to store all perishable and frozen food items. These areas should be large enough to accommodate storage shelving, spaced to be served by rolling carts.

Relationships and Character:

- This area should be located centrally to the food preparation area, the supervisor, and the delivery area.
- These units are to be walk-in prefabricated items, located within the structure.

Dimensions and Furnishings:

- Allow room for shelving and 3 linear feet of circulation space around each shelf.
- It is preferable to have all walk-in units to be recessed into the floor to allow for a smooth entry into the walk-in with no ramp.
- Storage capacity is in direct relationship with the frequency of deliveries. Fewer deliveries will require larger storage facilities, where frequent deliveries will require smaller storage areas.
- For a full size walk-in refrigerator and freezer storage, allow for a minimum width or depth of 7'-6" interior dimension for refrigerators and 5'-6" interior dimension for freezers (total width or depth will be increased by 8" to allow for the walk-in panel construction).
- Smaller units may not require separate refrigerator and freezer compartments. These two functions may be built into one complex with two separate compartments. For such installations, a 7'-6" wide unit should be considered, allowing two aisles of food storage and one central circulation aisle for both compartments. The overall length should range between 10'-0" to 20'-0", with 15'-0" being optimal. Requirements to consider when designing the storage space is 24" deep shelving (length as required) and 3'-0" wide aisles. A minimum of two (2) 5'-0" long shelves should be considered.
- Walk-in heights should be 8'-6".

Room Finishes:

Refer to Chapter 6 for technical details for food service areas.

Technical Requirements:

- Provide air circulation space for the compressor units.
- Provide conduits and drains for the evaporator coils.
- Provide a light level of 30 FC, or per manufacturer's standards.

4-4.5 Supervisor/Deliveries

Use Description:

The delivery area is a gateway to the food service operation and should be controlled by the food service manager. The manager will be responsible for tracking the inventory by overseeing deliveries and being responsible for security. Hence, the delivery area is where daily management functions will be conducted, including (for the medium and large facilities) a time management system station for employees.

Relationships and Character:

This area should be central to all major functions within the food service area to allow for receiving and management functions.

Dimensions and Furnishings:

- The manager should have a lockable office, with a minimum area of 60 square feet.
- A desk, chair and filing cabinets are the primary components of this space.
- A safe should be provided for protection of money earned daily.
- The area should also have a time management system station controlled by the manager for employee check-in.
- The delivery area in medium and large facilities should have a lockable area for storing items that will be taken elsewhere in the Clubhouse.

Room Finishes:

Refer to Chapter 6 for technical details for food service areas.

Technical Requirements:

- Provide electrical outlets and telephone at the manager's office.
- Provide a data port for point-of-sale information to keep track of the inventory and linked to the system used at the serving counter.
- Provide 50 FC for lighting.
- Consider installing insect control fans at the exterior doorway.
- See Chapter 6 for specialized requirements.

4-5 Support Spaces

There are three types of support spaces for the Golf Clubhouse: Toilets/Lockers/Changing, Custodial/Storage, and General Circulation. The specific requirements for their design are described in the following sections.

4-5.1 Toilets/Lockers/Changing

Use Description:

The toilet areas of the Golf Clubhouse should be designed to serve both golfers and dining patrons. The toilet areas should also contain a changing area for golfers to change into golfing apparel and have access to lockers to store their street clothes.

Relationships and Character:

This area should be directly accessible from the main circulation area. It should be convenient to golfers coming to the Clubhouse from the golf course. In larger facilities that might require golfers to go a long way through the Clubhouse to reach the toilet areas, additional toilet facilities may be provided in a more convenient location, such as near the grab and go window.

The toilet areas should be furnished with durable, good quality materials in keeping with the overall quality of the Clubhouse.

Dimensions and Furnishings:

- Provide separate plumbing fixtures for men and women in quantities as required by the applicable plumbing code, including provisions for persons with disabilities. See Chapter 5 for requirements and Chapter 6 for referenced standards.
- Provide adequate space at entrances and near fixtures for maneuvering by persons with disabilities as established by referenced accessibility standards.

Technical Requirements:

- The changing area should be sized for the simultaneous use of one or two patrons. The area should be furnished with a bench and eight to twelve lockers – each being half height and detailed with cabinetwork that reflects the overall quality of the toilet area. The lockers should have key locks that are distributed from the golf shop control counter.
- The toilet room sinks should be placed in a vanity counter with mirrors above the sinks. A full-length mirror should also be provided.
- The toilet room should have built-in towel dispensers and waste receptacles near the sinks.

Finishes/Special Requirements:

- Use ceramic tile for the wall finish from floor to ceiling (or up to 7 feet above the finished floor).
- Use non-slip ceramic tile for flooring.
- Provide GFI-equipped electrical outlets.
- Provide a floor drain for the area.
- Provide 70 FC for lighting, with fixtures at the mirrors to facilitate grooming.
- See Chapter 6 for Specialized Requirements.

4-5.2 Custodial/Storage

Use Description:

The custodial/storage areas serve to house supplies needed for building maintenance and upkeep. General storage should be provided for cleaning materials and for restocking the bathrooms. The custodial area should also contain a mop sink.

Relationships and Character:

This area should be located near the circulation system so that it can be accessed from most of the function areas. A prime location would be near the bathrooms, a location where plumbing connections are available and relatively frequent service is needed.

Dimensions and Furnishings:

- The mop sink and cleaning supplies require a minimum of 20 square feet, with another 20 square feet being required for building maintenance supplies.
- The cleaning area should allow for storing vertical equipment as well having 18″ deep shelving for storing cleaning solvents and other equipment.
- The building storage area should have shelving of varying depth, ranging from 8″ to 18″ deep, with some vertical open space for storing tall equipment.
- The delivery area in medium and large facilities should have a lockable area for storing items that will be taken elsewhere in the Clubhouse.

Finishes/Special Requirements:

- Provide resilient flooring or exposed concrete floors, and masonry unit or gypsum board walls, and an acoustic tile ceiling.
- Provide GFI-equipped electrical outlets.
- Provide 50 FC for lighting.
- Provide plumbing for the mop sink.
- See Chapter 6 for Specialized Requirements.

4-5.3 General Circulation

Use Description:

The elements of the general circulation space of the Golf Clubhouse include the main entrance and the hallway that leading to the golf shop and dining/function areas. It should be located and designed to enable the patron to understand where the major functions are and to expose the patron to the high quality and character of the facility.

Relationships and Character:

- The main entrance should be visible from the drop off area and should be signified by architectural features such as a canopy and well designed doorway.
- The main entrance should have a vestibule, be well lighted, and have a generous amount of glass to afford the patron a view to the activities inside.
- It should be located near the operations office whose staff can provide information to the visitor.

- The general circulation area should give immediate access to the golf shop from the main entrance and give good access from that point to the dining areas and function rooms.
- The general circulation area should permit good visibility to the golf shop, to allow all patrons to be exposed to its merchandise, either through windows or display cases.

Dimensions and Furnishings:

- The general circulation space should contain a computerized golfers' handicap station that also has extended weather forecast information and a bulletin board (secured for control by the administrative staff).
- Provide pay telephones that are readily accessible to the general circulation space.

Finishes/Special Requirements:

- Provide durable, attractive wall finishes, such as brick, wood, or painted or high-impact gypsum wallboard that is painted or covered with Type II vinyl wall covering. (Do not use prefinished vinyl covered gypsum wallboard.)
- Provide electrical outlets.
- Provide a data port for the golfers' handicap station.
- Provide 70 FC for lighting. Consider indirect fluorescent lighting.
- See Chapter 6 for Specialized Requirements.

Chapter 5 Illustrative Designs – Three Sizes

Hickam AFB - Hawaii

Golf Clubhouses need to be sized and designed to fit the needs of each installation. To illustrate this process, three example facilities are illustrated in the following tables and diagrams. They have been programmed to accommodate three different kinds of dining programs and illustrate different sizes of the support functions related to each.

One of the key variants in Golf Clubhouse activities is their dining programs, particularly as to how they accommodate tournaments. As indicated in Chapter 3, Building Design, there are three kinds of dining programs which dictate the size of the Clubhouse.

- The smaller Clubhouses generally are not capable of catering to a full tournament inside.
- The medium size Clubhouses can do so by using all of their interior function and dining spaces for tournaments.
- The largest ones can cater a tournament in their function rooms while still allowing the dining room to remain available for open dining.

The example facilities illustrate the options for designing Clubhouses with these dining programs. The menus, both a la carte and “grab and go”, are assumed to remain the same, resulting in having food preparation and service areas be of relatively similar sizes and layouts. The variance in overall space programs for these three facilities is illustrated in space allocation tables that contain the sizes of the program areas and support spaces.

5-1 Small Clubhouse (6,600 Square Feet)

The interior dining spaces of the small Clubhouse do not accommodate seating for a full tournament (seats for 144 patrons). In such cases, a patio should be provided that could accommodate such an activity more economically, if warranted. The kitchen would be sized for both grab and go and a la carte food service, including a “grab and go” service window for golfers outside.

Table 5-1: Space Allocation for Small Clubhouse

Functions		AREA IN SF	AREA IN SM
Golf Shop	Counter	120	11
	Sales	900	84
	Inventory, Receiving	100	9
	Repair	60	6
	Rental Club Storage	50	5
Administration	Operations	120	11
	Manager	100	9
Dining	Dining 1 (interior only)	525	49
	Dining 2 (Function)	875	82
	Function Storage	180	17
Food	Service	280	26
	Food Preparation/Soda	280	26
	Storage	100	9
	Refridgerator/Freezer	120	11
	Wash	160	15
	Supervisor	60	6
Support	Toilets, Lockers/Changing	500	47
	Custodial	60	6
	Storage	80	7
	Subtotal of Programmed Area (Net)	***4,670***	***436***
Walls, Circulation, Roof Overhangs	*% of Programmed Area: 35%*	1,630	152
	Subtotal of Building Area (Gross)	***6,300***	***588***
Mechanical, Electrical, Communications	*% of Building Area*: 5.0%*	300	28
Total Constructed Area (Gross)		***6,600***	***616***

* This is based on industry standards. Local condition may require other sizes.

The layout of the example plan is based on patrons accessing both the dining areas and golf shop via the main entrance.

Figure 5-1: Example Plan – Small Clubhouse

5-2 Medium Clubhouse (8,000 Square Feet)

The dining spaces of the medium size Clubhouse should be large enough to provide for a full tournament of 144 patrons if both the dining and function spaces were combined. The food service should be the same as that in the small Clubhouse, except that the food service areas should then provide service to a larger number of patrons.

Table 5-2: Space Allocation for a Medium Clubhouse

Functions		AREA IN SF	AREA IN SM
Golf Shop	Counter	160	15
	Sales	1,000	93
	Inventory, Receiving	130	12
	Repair	60	6
	Rental Club Storage	100	9
Administration	Operations	140	13
	Manager	110	10
Dining	Dining 1 (interior only)	782	73
	Dining 2 (Function)	1,050	98
	Function Storage	200	19
Food	Service	300	28
	Food Preparation/Soda	300	28
	Storage	150	14
	Refridgerator/Freezer	200	19
	Wash	180	17
	Supervisor	60	6
Support	Toilets, Lockers/Changing	600	56
	Custodial	80	7
	Storage	100	9
	Subtotal of Programmed Area (Net)	***5,702***	***532***
Walls, Circulation, Roof Overhangs	*% of Programmed Area: 35%*	1,996	186
	Subtotal of Building Area (Gross)	***7,698***	***718***
Mechanical, Electrical, Communications	*% of Building Area*: 5.0%*	302	32
Total Constructed Area (Gross)		***8,000***	***750***

* This is based on industry standards. Local conditions may require other sizes.

The example plan below is based on the same site organization as the small one. It is a more compact design, giving the golf shop a wall of potential display cases that are exposed to dining patrons.

Figure 5-2: Example Plan – Medium Clubhouse

5.3 Large Clubhouse (11,000 Square Feet)

The large Clubhouse should have function rooms sized to accommodate a tournament-sized function while still permitting food service for patrons not attending the function. Such a capacity should permit the Clubhouse to maintain a reputation for being available regularly for open dining.

Table 5-3: Space Allocation for a Large Clubhouse

Functions		AREA IN SF	AREA IN SM
Golf Shop	Counter	160	15
	Sales	1,200	112
	Inventory, Receiving	150	14
	Repair	60	6
	Rental Club Storage	150	14
Administration	Operations	270	25
	Manager	120	11
	Events	140	13
Dining	Dining 1 (interior only)	1,050	98
	Dining 2 (Function)	875	82
	Function 2	875	82
	Function Storage	220	21
Food	Service	350	33
	Food Preparation/Soda	350	33
	Storage	200	19
	Refridgerator/Freezer	320	30
	Wash	180	17
	Supervisor	80	7
Support	Toilets, Lockers/Changing	650	61
	Custodial	120	11
	Storage	120	11
	Subtotal of Programmed Area (Net)	***7,640***	***713***
Walls, Circulation, Roof Overhangs	*% of Programmed Area: 35%*	2,674	250
	Subtotal of Building Area (Gross)	***10,314***	***963***
Mechanical, Electrical Communications	*% of Building Area*: 5.0%*	686	67
Total Constructed Area (Gross)		***11,000***	***1,030***

*This is based on Industry Standards. Local conditions may require other sizes.

The large Clubhouse layout follows the second option illustrated in Chapter 3, where patrons enter the facility between the golf shop and dining area. In this organization, all of the patron circulation is on the golf course side of the facility, allowing for all of the service elements to be connected on the "back" side.

Figure 5-3: Example Plan – Large Clubhouse

Chapter 6 Specialized Requirements

Vandenberg AFB - California

6-1 Finishes / Fixtures, Furnishings, and Equipment

Table 6-1: Room Finish Schedule

ROOM DESCRIPTION	FLOORING					WALLS				CEILING		
	Carpet	Resilient	Ceramic Tile	Quarry Tile	Concrete	Arch. Masonry,	Gypsum Board	Ceramic Tile	Exposed CMU	Open to Structure	Acoustical Tile	Gypsum Board
Golf Shop												
Sales Floor	O						O				O	O
Counter	O						O				O	O
Inventory/Receiving		O					O				O	
Repair/Rental Club Storage		O					O				O	
Dressing Rooms	O						O				O	
Administration												
Operations Office	O						O				O	
Manager's Office	O						O				O	
Events Office	O						O				O	
Assistant Manager's Office	O						O				O	
Dining												
Dining Room 1	O					O	O				O	O
Dining Room 2/Function	O					O	O				O	O
Function Storage		O					O				O	
Food/Beverage Service												
Cooking/Serving Line				O			O	O				O
Food Preparation				O			O	O				O
Food Storage		O					O				O	
Support Spaces												
Toilets			O					O				O
Lockers/Changing			O					O			O	
Custodial		O					O		O	O		
Storage		O					O		O	O		
Mechanical					O		O		O	O		
Electrical					O		O		O	O		
Communication		O					O				O	

Table 6-2: Fixtures, Furnishings and Equipment List

Golf Shop	Display counters (R – if built-in) * Wall display units and shelves (slot wall) (R. if built-in) Display tables Golf club display racks Mirrors (R) Desk chairs Point of sale system and cash registers Sound system (R: only speakers and wiring)
Inventory/Receiving	Shelving System (R – if built-in) Work station and desk chair Computer equipment
Repair/Rental Golf Club Storage	Workbench and desk chair (R – if built-in) Shelving system (R – if built-in)
Administration	Desk and desk chairs Computer equipment Visitor seating File cabinets Work counter (R – if built-in) Time management station Safe
Dining/Function Spaces	Rectangular tables (convertible to rounds) Stacking chairs Trash receptacles Television monitors Sound system (R: only speakers and wiring) Drop down screen for image projection (R)
Function Storage	Shelving system (R – if built-in) Dollies for tables, chairs
Food Service Area	Point of sale system and cash registers Work station and desk chairs Computer equipment Time management station Work tables Carts for bussing, food transport Shelving systems (R – if built-in) Trash receptacles
General Circulation	Handicap station with weather forecast Lockable bulletin board, display case (R) Trash receptacles
Toilets/Lockers/Changing	Paper towel dispenser (R) Hand dryer (R) Mirrors (R) Diaper changing station (R) Seat cover dispensers (R) Trash receptacle (R – if built-in) Lockers and bench (R – if built-in)
Custodial/Storage	Shelving system (R – if built-in) Mop storage rack (R)
Exterior spaces	Tables, chairs, benches Tournament schedule, score boards Trash receptacles Dumpsters Maintenance equipment storage

* (R) = Real Property Installed Equipment (RPIE). RPIE is purchased and installed with construction project funds. All other listed equipment is purchased with equipment funds and installed with either construction project or equipment funds. Infrastructure to support all types of equipment should be included in the construction contract.

6-2 Food Service

6-2.1 Programming Menu

The following menu indicates the range of food that the kitchen should be able to produce. Each facility may develop other menu items or establish themes based on local specialties. The kitchen illustrated in the following section has been designed to serve at least the items listed.

Table 6-3: Food Service Programming Menu

	BREAKFAST	LUNCH
A La Carte	Eggs/Egg Sandwiches	Burgers
	Cereal – Hot/Cold	Chicken Sandwiches
	Pancakes	Cold Sandwiches–Tuna,Turkey,Cold Cut
	Waffles	Hot Sandwiches – Melts, Cheesteaks
	Bacon	Salad / Soup
	Sausage	Pizza
	Fruit	Panini Sandwiches
		Fries / Chicken Fingers / Onion Rings
Grab and Go	Pastries	Hot Dogs
		Cold Sandwiches
Beverages	Coffee	Soda
	Hot Chocolate	Sports Drinks
	Tea	Iced Tea
	Juices (fruit and Snapple)	Water
	Soda	Beer or pre-packaged liquor

Standard Counter Items – Chips, Candy, Snacks, and Cookies

6-2.2 Food Service Equipment Plan and Schedule

Figure 6-1: Example Food Service Equipment Plan
(based on Medium Size Clubhouse)

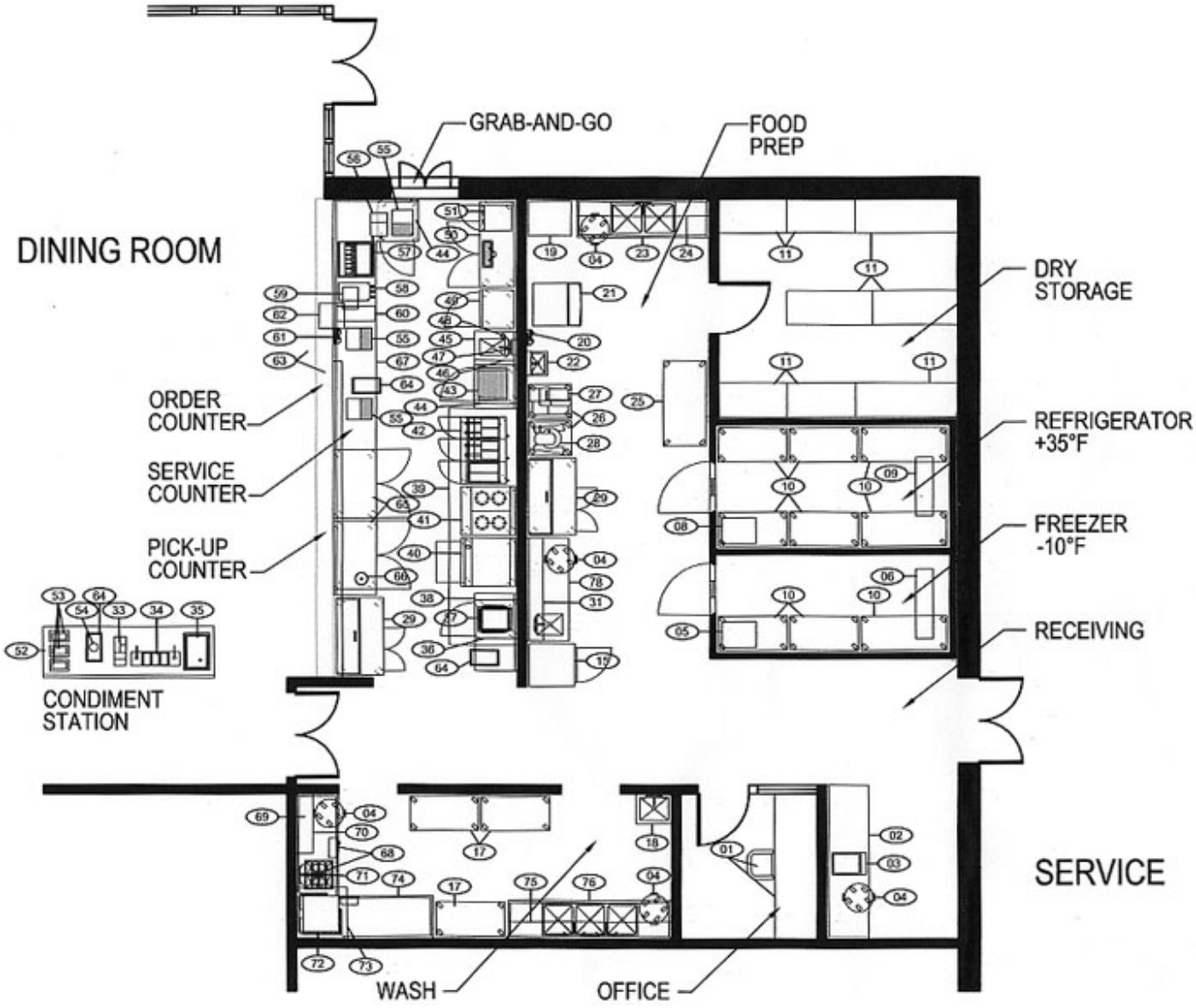

***Table 6.4*: Example Food Service Equipment Schedule**

Item No.	Qty	Description
01	1	Desk and Chair
02	1	Receiving Worktable
03	1	Scale
04	5	Trash Container, Lid, Dolly
05	1	Condensing Unit –10F (R) *
06	1	Evaporator Coil –10F (R)
07	1	Walk-In Complex (R)
08	1	Condensing Unit +35F (R)
09	1	Evaporator Coil +35F (R)
10	9	Shelving Unit, Mobile
11	8	Dry Storage Shelving (R – if built-in)
15	1	Refrigerator/Freezer
17	3	Shelving Unit, Mobile
18	1	Mop Sink, Hanger (R)
19	1	Bag in Box Rack
20	1	Water Filter (R)
21	1	Ice Cuber and Bin
22	2	Hand Sink (R)
23	1	Two Compartment Sink (R)
24	1	Wall Shelf (R if built-in)
25	1	Mobile Worktable
26	2	Mixer Table, Mobile
27	1	Slicer
28	1	Mixer, 20-Quart
29	2	Pizza Prep Table
31	1	Wall Shelf (R – if built-in)
32	1	Fire Extinguishing System (R)
33	1	Condiment Organizer
34	1	Condiment Dispenser
35	1	Iced Cold Pan
36	1	Undercounter Freezer
37	1	Panini Grill
38	1	Worktable
39	1	Exhaust Ventilator (Hood) (R)
40	1	Range, w/Griddle Top
41	1	Range, Open Burner Top

Item No.	Qty	Description
42	1	Fryer Battery w/Dump & Filter
43	1	Hot Dog Roller Grill & Warmer
44	2	Undercounter Refrigerator
45	1	Worktable with Sink (R)
46	1	Stainless Steel Splash Guard (R)
47	1	Paper Towel Dispenser
48	1	Soap Dispenser
49	1	Reach In Refrigerator
50	1	Beer Dispenser
51	1	Display Case, Heated
52	1	Condiment Counter
53	3	Napkin Dispenser
54	1	Trash Chute (R)
55	3	P.O.S. System
56	1	Coffee Brewer
57	1	Soda/Ice Dispenser
58	1	Iced Tea Brewer
59	1	Carbonator
60	1	Juice Dispenser
61	1	Water Filter (R)
62	1	Display Rack
63	1	Serving Counter Bar (R – if built-in)
64	2	Trash Container
65	2	Undercounter Refrigerator
66	1	Soup Warmer
67	1	Serving Counter Worktable
68	1	Waste Disposer (R)
69	1	Clean Dishtable (R)
70	1	Pot Rack / Wall Shelf (R)
71	1	Faucet, Pre-Rinse (R)
72	1	Warewasher (R)
73	1	Condensate Hood (R)
74	1	Soiled Dishtable (R)
75	1	Pot Rack / Wall Shelf (R)
76	1	(3) Compartment Pot Sink (R)
78	1	Worktable With Sink (R)

* (R) = Real Property Installed Equipment (RPIE). RPIE is purchased and installed with construction project funds. All other listed equipment is purchased with equipment funds and installed with either construction project or equipment funds. Infrastructure to support <u>all</u> types of equipment should be included in the construction contract.

6-2.3 Technical Details for Food Service Areas

6-2.3.1 Architectural Details

Doors and Openings

- Door openings of a minimum 3'-0" by 7'-0" with flush sills are required from building delivery through to kitchen and all accesses required for foodservices.
- Exterior delivery access doors must be protected with fly fans or insect screen protection.
- All doors in traffic aisles should have vision panels, one-way doors excepted.
- Office doors in the kitchen should have large windows.
- Doors to dining areas should be sight line protected and acoustically treated.
- Doors require kickplates.

Floors

- Finished floor in the kitchen should be 15 percent abrasive, non-slip quarry tile with black epoxy grout to avoid discoloration of grout from food acids. An alternate finish is poured and troweled cupric oxychloride such as Hubbellite
- For a resilient floor, use a sheet vinyl material with “welded” impervious joints.
- Non-slip tile is recommended for servery floors and similar high traffic areas.
- Kitchen floor finish should extend into walk-in and roll-in refrigerators and freezers.

Walls

- Coved bases are required to be a minimum of 4" high.
- Walls should be smooth, easily cleaned, non-absorbent hard surfaces.
- Painted drywall partitions in kitchen are not recommended.
- Wet areas require a waterproof wall finish such as ceramic tile, fiberglass reinforced plastic, or smooth, epoxy-painted, skim coated masonry block
- Installation of 42" high corner guards mounted 6" above finished floor at exposed column and wall edges is advised.
- Bumper guards mounted at 10" and 34" to center of bumper above finished floor are required for heavy cart traffic areas.
- Walls between dining rooms and kitchen/warewashing areas must be sound attenuated.
- When stud walls are used, all walls intended to support wall shelving, wall cabinets, utensil racks, exhaust ventilators, hand sinks, etc. must be provided with blocking consisting of a 6" headers at 4'-0" and 5'-0" above the floor. Construction must support 50 (25kg) pounds per linear foot.

Ceilings

- Finished ceilings should be a minimum of 9'-0" above the finished floor.
- Finished ceiling should be a smooth, acoustically rated, non-absorbent, washable surface.
- Walk-in refrigerators, freezers and exhaust ventilators should be closed to the ceiling with enclosure panels.

Lighting

- Warm, white deluxe fluorescent lights should be used in the kitchen.
- All lighting fixtures used in foodservice areas must be equipped with lens protectors.
- Ceiling fixtures should be recessed.

Windows

- Minimum sill height suggested to be 48" (1220mm) to allow for equipment against wall under window.

Waste

- A central grease trap should be provided outside the building in a vehicle accessible location.

Miscellaneous Architectural Details

- Space for the installation of remote refrigeration condensing units is needed. An exterior location is recommended.
- Provide large windows in kitchen office for control purposes.

6-2.3.2 Engineering Details

Water and Drains

- Water temperature at hand basins shall not exceed 110°F (43°C). Potwashing sinks, dishwashing machines and water wash exhaust ventilators require a minimum of 140°F.
- If water hardness is over 6 GPG provide water softener and soft water lines to all equipment requiring a water connection. Below 2 GPG, some equipment functions can be adversely affected.
- Water wash systems in exhaust ventilators are recommended.
- Food waste disposers (garbage grinders) are required unless restricted by code.

Ventilation

- 20 to 30 air changes per hour in the kitchen are required.
- The air supply into the kitchen should be tempered.
- Spot cooling is required in cold food preparation and plating areas
- Negative air pressure must be maintained in the kitchen to control odor transfer.
- Separate fans and duct systems are required for cooking exhaust, wood fired equipment, and dishwashing exhaust.
- Exhaust hood control panels will require 24 hour uninterrupted power.

- Air cooled refrigeration equipment requires adequate ventilation of not less than 1,000 cfm per horsepower (250 cfm for watercooled).

Fire Control

- Water mist fire extinguishing systems should be specified in sprinklered buildings unless prohibited by local codes and should be connected to building sprinkler system.
- Wet chemical fire extinguishing systems should be specified in non-sprinklered buildings or where required by code.

Electrical

- Emergency power is required for exhaust hood control panel, walk-in freezer, walk-in refrigerators, and other equipment required for emergency service.
- Connect walk-ins to a central enunciator panel for temperature monitoring where available.
- Connect exhaust ventilators and/or fire protection systems to central enunciator panels.

Structural

- All foodservice storage and preparation area floor slabs should be designed for 150 psf.
- Expansion joints cannot be located within prefabricated walk-in refrigerators and freezers, floor depressions or equipment raised bases.

6-3 Building Systems

General

The Golf Clubhouse should be designed to meet prevailing economic and engineering constraints. The design should meet life cycle cost criteria. Life cycle cost analyses should be equivalent to the methodologies outlined in the National Bureau of Standards Handbook (NBS 135), Life Cycle Cost Manual of the Federal Energy Management Program. All building systems specifications must be verified with the Installation Civil Engineering Office.

Other general design issues include space and siting issues:

- Preliminary floor space requirements for MEP/FP equipment (including rooms for electrical and communications equipment) should range from 5 to 10 percent of the gross building area. Actual floor space requirements are dependent on geographic location, building size, architectural design, mechanical design and other factors. Proper ceiling space for ductwork and equipment must be considered.
- Space for outdoor equipment (e.g. condensing units, oil tanks, transformers) must be accommodated and coordinated with the exterior space use and landscape design. Care must be taken to locate this and any other exterior building mounted equipment (e.g. roof top units, etc.) away from the building entrance and to provide visual and acoustical shielding.

6-3.1 Structural Systems

Select a structural system that will achieve several architectural design goals:

- Allow for high bay spaces for the dining areas and golf shop.

- Permit flexibility for reconfiguring the floor plan in the administration, food preparation, and golf shop service areas.
- Permit large wall openings for views from the dining room and golf shop.
- Can be extended with significant overhangs.

Select the structural system based on achieving an economical system that meets engineering standards, including consideration of:

- Projected load requirements.
- Bearing conditions including subsoil and drainage considerations.
- Prevailing and available construction practices.
- Regulatory constraints including force protection standards, seismic loadings, safety issues, and climatic conditions.

6-3.2 Mechanical Systems

The Golf Clubhouse is likely to be a single story building with most rooms close to the exterior walls. Its rooms will have differential loadings and will be operated on different schedules. Design considerations to achieve an economical system in designing the HVAC systems for the Golf Clubhouse include the following items:

- Load calculations shall be performed in accordance with ASHRAE standards, based on local weather conditions, and applicable energy code.
- Mechanical systems shall be designed according to local code requirements. If local codes are not in force, the International Mechanical Code (IMC); 2000 shall be used.
- Mechanical systems shall be designed according to the International Energy Conservation Code – 2000, ASHRAE 90.1 – 1999 or other applicable local energy code.
- Ventilation shall be provided in accordance with ASHRAE Standard 62-2001.
- A single hot water boiler, sized as defined above, shall provide heating.
- Provide direct exterior access to the mechanical room from the outside.
- Provide baseboard, fin tube radiation for heating. Elements shall be zoned by space, controlled by local thermostats. In spaces where radiation cannot be installed, provide heating coils in overhead ductwork.
- Provide air-conditioning for all areas in the building, where authorized, including the golf shop, offices, dining room, and function spaces.
- Humidification is not required unless needed to control problems caused by local climate conditions.
- System shall be designed to meet NC-35 acoustic criteria for the occupied space.
- Provide a kitchen hood exhaust fan, sized to meet the specified hood performance. Provide hood exhaust duct as required by NFPA 96. Provide make-up air unit and heat recovery capability as required by the International Energy Conservation Code – 2000 or other applicable local energy code. The kitchen shall not be air-conditioned. Provide dishwasher exhaust (if dishwashing machine is furnished). Dishwasher exhaust shall be aluminum or stainless steel, watertight.

- Provide exhaust system for the toilets, locker rooms and custodial space.

6-3.3 Plumbing Systems

Plumbing systems for the Golf Clubhouse will need to support all its functions, most notably the kitchen. Considerations to be taken into account include the following items:

- Plumbing systems shall be designed according to local code requirements. If local codes are not in force, the International Plumbing Code (IPC)–2000 shall be used.
- Domestic hot water systems shall be designed in accordance with ASHRAE Standards and 90.1–1999.
- Domestic hot water system temperatures shall comply with local Health Codes. If local codes are not in force, provide a booster heater to provide 180 degrees F. to the dishwasher.
- Provide floor drains and hose bibbs in toilet rooms and food preparation areas.
- Provide wall hydrants on the building exterior.

6-3.4 Fire Protection Systems

The Golf Clubhouse is a place of public assembly. Achieving appropriate fire protection conditions will include meeting the following provisions:

- Fire Protection features shall comply with UFC 3-600-01 *Fire Protection Engineering*.
- Provide wet sprinkler systems throughout the Golf Clubhouse, designed according to NFPA 13–2000.
- Provide wet chemical fire suppression system in the kitchen hood.
- Fire alarm system and wiring shall comply with NFPA 72.
- Provide battery powered emergency lighting and illuminated exit signs.
- Provide ADA compliant fire alarm system consisting of a fire alarm control panel (FACP), audio/visual signaling devices, manual pull stations, smoke detectors, heat detectors and modules for fire protection devices.

6-3.5 Electrical Systems

The electrical system of the Golf Clubhouse shall be designed to support the multiple activities of the Golf Clubhouse and shall meet the following considerations:

- Electrical systems shall be designed in accordance with the National Electrical Code (NEC), and applicable local codes and regulations, including the applicable energy code.
- Electrical service shall be sized based upon the calculated loads and size of the building, with spare capacity for future loads (20 percent).
- Electrical service shall be connected to the local utility or to the base distribution system, as appropriate. The service shall be grounded as required by code.
- A pad-mounted transformer shall be provided, which will serve as the demarcation point between the exterior service and the building power, and be screened if in patron view.

- Secondary service from the transformer shall connect to a main service over current protection and disconnecting device.
- Metering shall be provided. Either check metering on the Clubhouse, if primary metering is in use, or secondary metering on the load side of the transformer, in accordance with local utility or base requirements.
- Voltage requirements may vary for overseas locations and should be verified before beginning design.
- Secondary service voltage shall be 208/120V, 3Ø, 4 wire. (Therefore, interior transformers are not required.)
- The MDP (main distribution panel) shall serve the large three phase mechanical equipment and feed branch circuit panel boards. Provide separate panel boards for the kitchen, general lighting and power, and single phase and smaller three phase mechanical equipment.
- Run all circuits in steel conduits with insulated copper conductors.
- Provide full size green insulating grounding conductor for each circuit.
- All power wiring shall run concealed.
- Recommended lighting levels are listed in Chapter 4 for the specific functional areas. In general, provide lay-in fluorescent fixtures in offices and back-of-house spaces; downlights and decorative, dimmable fixtures in the dining rooms; fluorescent strip fixtures in mechanical and utility spaces; lensed fixtures in food preparation and storage areas.
- Provide manual toggle switches, dimmers and automatic lighting controls (occupancy sensors, time clocks) for lighting as appropriate for the dining, kitchen, golf shop, back of house and offices. Lighting controls shall meet the requirements of the local energy code.
- Provide convenience receptacles, special configuration receptacles and power for user's equipment and mechanical equipment.

6-3.6 Exterior Lighting Systems

Exterior lighting systems shall be designed to include the following provisions:

- Provide pole mounted metal halide lighting for parking areas and low level metal halide bollards for walkways.
- Provide metal halide or compact fluorescent fixtures in exterior canopies and at exterior door locations.
- Provide pole-mounted metal halide for outdoor activities.
- Provide time clock/photocell control for all exterior lighting.

6-3.7 Communication Systems

Considerations for providing appropriate communications systems support for the Golf Clubhouse include:

- Provide provisions (boxes, raceways, power) for security, telephone, data, point-of-sale (POS), network, public address (PA), cable access television (CATV), Internet, closed circuit television (CCTV) where applicable and other low voltage systems.
- Communications wiring shall be brought into the building to a dedicated communications room underground in PVC or rigid metal conduit to the head end equipment. Communications wiring shall be run in raceways in areas subject to damage, such as in walls or in unfinished areas. Other areas (above ceilings) may not require conduits.
- Review security/privacy/interference issues with the user/operator to determine if multiple communications (low voltage) systems can be installed in the same conduit.

6-4 Sustainable Development

Sustainable facilities achieve optimum resource efficiency and constructability while minimizing adverse impacts to the built and natural environments through all phases of its life cycle. The goals of sustainable development are to conserve energy, water, and raw materials; prevent environmental degradation caused by construction, operations, and disposal of facilities; and create built environments which are livable, healthy, maintainable, and productive. These goals are compatible with providing a desirable and economically viable recreation facility.

6-4.1 Sustainable Goal

The Golf Clubhouse will incorporate the principals of sustainable design in the development of the design. Guidance is provided by the US Green Building Council (http://www.usgbc.org) in its Leadership in Energy and Environmental Design (LEED) Green Building rating system. The design will achieve the highest LEED rating (documented in the Design Analysis) that the budgeted amount will allow, with the goal of being LEED certifiable.

6-4.2 Incorporate Sustainable Development principles by:

- Site: demonstrate that site planning has evaluated solar and wind orientation and existing site conditions to develop optimal building siting and appropriate low maintenance landscaping.
- Energy: demonstrate that building orientation and massing, natural ventilation, day-lighting, and other passive strategies have been evaluated in an effort to increase the quality of the indoor environment and comfort of the occupants. Demonstrate that the system selection is the most efficient through the use of an advanced computer modeling and life cycle cost analysis.
- Building materials: evaluate the use of environmentally preferable materials that limit impacts on the environment and occupant health within the parameters of performance, cost, aesthetics and availability.
- Indoor air quality: evaluate design strategies that limit sources of contamination before they enter the building.
- Water: evaluate the use of water conservation through the use of low flow fixtures, appropriate landscaping and natural filtration of rainwater.
- Recycling and conservation: accommodate recycling into the building design and limit waste during construction by recycling construction waste.

Appendix A Resources and Links

This appendix provides a list of references, including other Air Force, Department of Defense and national standards documents that give related guidance, to be used in conjunction with this design guide.

AFPD 32-10 Installations and Facilities
(http://afpubs.hq.af.mil/pubfiles/af/32/afpd32-10/afpd32-10.pdf)

AFI 32-1022 Planning and Programming of Nonappropriated Fund Facility Construction Projects
(http://www.e-publishing.af.mil/)

AFI 32-1023 Design and Construction Standards and Execution of Facility Construction Projects
(http://www.e-publishing.af.mil/)

AFI 32-1024 Standard Facility Requirements
(http://www.e-publishing.af.mil/)

MIL-HDBK-1190, Facility Planning and Design Guide (contact HQ AFCESA,
(http://www.afcesa.af.mil/Directorate/CES/default.html)

AFI 32-1032 Planning and Programming Real Property Maintenance Projects Using Appropriated Funds
(http://www.e-publishing.af.mil/)

AFH 32-1084 Standard Facility Requirements
(http://afpubs.hq.af.mil/pubfiles/af/32/afh32-1084/afh32-1084.pdf)

AFI 65-106 Appropriated Fund Support of Morale, Welfare and Recreation and Nonappropriated Fund Instrumentalities
(http://www.e-publishing.af.mil/)

AFI 34-105 Programming for Nonappropriated Fund Facility Requirements
(http://www.e-publishing.af.mil/)

USAF Project Managers' Guide for Design and Construction
(http://www.afcee.brooks.af.mil/dc/products/pmguide/pmguide.asp)

AFI 32-7062 USAF Comprehensive Planning
(http://www.e-publishing.af.mil/)

AFPAM 32-1010 Land Use Planning
(http://afpubs.hq.af.mil/pubfiles/af/32/afpam32-1010/afpam32-1010.pdf)

USAF Landscape Design Guide
(http://www.afcee.brooks.af.mil/dc/dcd/land/ldg/index.html)

USAF Master Landscape Construction Specifications
(http://www.afcee.brooks.af.mil/dc/dcd/land/mstrland/mlcs.htm)

USAF Golf Course Environmental Management Plan
http://www.afcee.brooks.af.mil/ec/golf/intro.asp

HQ AFCEE Accessibility Page
(http://www.afcee.brooks.af.mil/dc/products/dcproducts.asp)

Uniform Federal Accessibility Standards (UFAS)
(http://www.access-board.gov)

Americans with Disabilities Act Accessibility Guidelines (ADAAG)
(http://www.access-board.gov/adaag/html/adaag.htm)

AF Sustainable Facilities Design Guide
http://www.afcee.brooks.af.mil/dc/products/dcproducts.asp.

US Green Building Council: Leadership in Energy and Environmental Design (LEED) Green Building Rating System
(http://www.usgbc.org)

EPA website
(http://www.epa.gov/cpg/products)

Energy Star website
(http://www.energystar.gov/products)

AFI 31-210, USAF Antiterrorism/Force Protection (AT/FP) Program Standards
(http://www.e-publishing.af.mil/)

USAF Force Protection Design Guide
http://www.afcee.brooks.af.mil/dc/dcd/arch/force.pdf

UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings
(http://www.afcee.brooks.af.mil/dc/products/dcproducts.asp)

The Air Force Architectural Compatibility Design Guide
(http://afcee.brooks.af.mil/dc/dcd/arch/ACguide/liveACG/index.htm)

AFPAM 32-1097 Sign Standards Pamphlet
(http://afpubs.hq.af.mi/pubfiles/af/32/afpam32-1097/afpam32-1097.pdf)

USAF Interior Design Guides
(http://afcee.brooks.af.mil/dc/dcd/interior/intdespu.htm)

USAF Cost Guides/Handbooks
(http://www.afcesa.af.mil/Directorate/CES/default.html)

AJMAN 32-1058, Masonry Structural Design for Buildings
(http://afpubs.hq.af.mil/pubfiles/af/32/afji32-1058/afji32-1058.pdf)

International Building Code (IBC)

National Fire Protection Association (NFPA)
(http://www.nfpa.org)

UFC 3-600-01 Design: Fire Protection Engineering

Engineering Design and Construction
(contact HQ AFCESA http://www.afcesa.af.mil/Directorate/CES/default.html)

National Electrical Code (NEC)
http://www.mikeholt.com/nec/nec.htm)

Illuminating Engineering Society's Illuminance Selection Procedure (IES)
(http://www.iesna.org)