



## Facility Design & Construction

Brian Campbell & Mandy Gries

To cite this article: Brian Campbell & Mandy Gries (1995) Facility Design & Construction, Oncology Issues, 10:6, 23-25, DOI: [10.1080/10463356.1995.11904577](https://doi.org/10.1080/10463356.1995.11904577)

To link to this article: <https://doi.org/10.1080/10463356.1995.11904577>



Published online: 28 Sep 2017.



Submit your article to this journal [↗](#)



Article views: 1



View related articles [↗](#)

# FACILITY DESIGN & CONSTRUCTION

by Brian Campbell and Mandy Gries

**F**ew aspects of program management are as satisfying as the design, construction, and opening of a new cancer facility. Whether building a new center, upgrading a suite, or expanding an office or satellite, the process of planning, budgeting, obtaining capital, and managing the construction work is a major accomplishment.

A successful experience merits recognition and reward. However, even small mistakes in project inception and design can lead to failure in completed construction. An unsuccessful experience can bring financial hardship, angry constituents, loss of morale, and multiple migraines.

## SITE SELECTION

Before beginning the designing stages of construction, plan to go on site visits to numerous centers and conduct interviews of both staff and physicians, preferably in oncology centers, to learn of their experiences

---

*Brian Campbell is chief operating officer for Oncology Partners, Inc. (formerly Kolff Medical Partners, Inc.), an Atlanta-based MSO focused on oncology services. Mandy Gries is operations manager for Oncology Partners, Inc., responsible for facility design and construction.*

and suggestions. Your success and satisfaction will be closely aligned with time spent increasing your understanding of similar construction projects.

There are several factors to consider when evaluating real estate options, including property location, size, and access. Each affects your patients and the business itself.

The location of the center should be easily accessible from major streets, highways, and if applicable, the hospital campus. Investigate zoning to ensure that the buildings are zoned for medical use. The building itself must have adequate parking and, if possible, a drop-off area near the front entrance for less ambulatory patients. A first floor suite is desirable both for patient access and for overall visibility of the business. If a first floor location is not possible, elevators must be available that can easily accommodate a wheelchair (possibly an issue in older buildings).

It is important to discuss signage allowances with the landlord. Easily readable signs help patients and improve the overall visibility of the business. The best signage options include the directory in the lobby, signage on the entrance to the suite, and a marquee sign in front of the property.

The suite must be of an adequate size to allow for growth and the addition of future services such as mammography, ultrasound, or a

peripheral blood stem cell program. Existing plumbing within the facility or suite needs to be evaluated; the addition of plumbing needed for medical use can have a significant impact on a facility's budget.

Other items to keep in mind when evaluating an existing space include demolition or relocation of existing walls or structures, carpet replacement, HVAC changes and upgrades, and finishes and textiles. These can all be costly.

If the facility is built from scratch, agree up front with the owner/contractor on the cost per square foot, and document this understanding concisely in the lease.

## LAYOUT AND WORKFLOW

The layout of the suite must accommodate a smooth workflow for both patients and employees. Before contemplating designs or plans, many practices have found value in conducting patient focus groups to identify issues and enhancements. To ensure functionality and flow, review layouts with physicians and staff, who will be using the space on a daily basis.

Here are a number of items to consider when developing a floor plan:

- arrange for the front desk/reception to accommodate flow for check-in, scheduling, and time-of-service payments
- position patient charts, copier, fax, and postage meter in a central-

ized area for access by all functions

- locate the lab close to the waiting room so that patients coming in just for lab tests can enter and exit without traveling through the facility (It is desirable to have a restroom adjacent to the lab with a pass-through for discreet collection of urine samples.)

- locate an enclosed drawing station/room adjacent to the lab to ensure privacy, ease of collection, and convenience to patients

- locate patient treatment areas along the window line if possible for an optimal environment

- provide a room for private discussions between patients and business office staff

- locate nurses stations in full view of chemo/infusion rooms and chairs

- locate compounding area/pharmacy adjacent to treatment areas for continual communication and immediate or close transport of drugs and solutions

- locate break room away from treatment areas to reduce noise disturbances and increase employee privacy (In addition, remember that patients often have a decreased tolerance for food smells.)

- provide two exam rooms per physician on-site per day

- consider the potential growth in practice (Will additional physicians be added and when?)

- provide a back door or private entrance for physician access

- provide adequate restrooms (waiting room, treatment area, physicians) that meet ADA requirements (possibly a problem with older buildings)

- designate separate restrooms for staff versus patients in adherence with OSHA requirements

- plan carefully to allow adequate space for storage, such as supplies, files and charts, clean and soiled utilities, and housekeeping materials

- consider adding meeting rooms for multidisciplinary review meetings, tumor board, and staff functions.

- consider library space for physicians and staff to use as

privacy space and an optimal location for computers to access on-line services.

### **WORKING WITH CONTRACTORS**

Prior to meeting with contractors, prepare a specific floor plan to help ensure that bids will be accurate and that multiple bids will be based on identical information.

Bids should be obtained from several contractors. The landlord may be able to provide information on reputable contractors who have previously performed work in medical facilities and clearly understand construction requirements and regulations.

Bringing all the bidding contractors into the same initial meeting along with the landlord's representative can help ensure that bids are based on identical information communicated in one meeting (apples to apples comparison). By virtue of his or her reputation and experience, the landlord can answer specific questions regarding the building that may affect construction costs or time frame. Holding one meeting instead of several meetings reduces the time frame for bidding.

After you receive and review the bids, do not be afraid to challenge significant discrepancies in cost. The highest bidder may purposely overestimate costs, while the lowest bidder may come in too low just to get the contract. Price discrepancy can also indicate that a contractor is poorly organized or does not understand the scope of the project.

Be sure to inquire about both cost and time frame for the project, including architects' drawings and permits. Architects' drawings must be checked closely prior to signing off to ensure that all details have been incorporated.

### **CONSTRUCTION**

There are certain special construction requirements that may be mandatory for an oncology center. These requirements must be clearly identified and communicated to the contractor and include the following:

- adequate plumbing for multiple hand-wash sinks and restrooms as well as for break room and drug compounding area

- dedicated electrical outlets for lab equipment, computers, compounding hood, telephone system, and security systems (if applicable)

- adequate HVAC to maintain comfortable temperatures in rooms with heat generating equipment (i.e., lab, drug compounding area)

- ventilation of compounding hood to outside for additional safety

- epoxy paint in lab and drug compounding area for ease in clean-up of splatters.

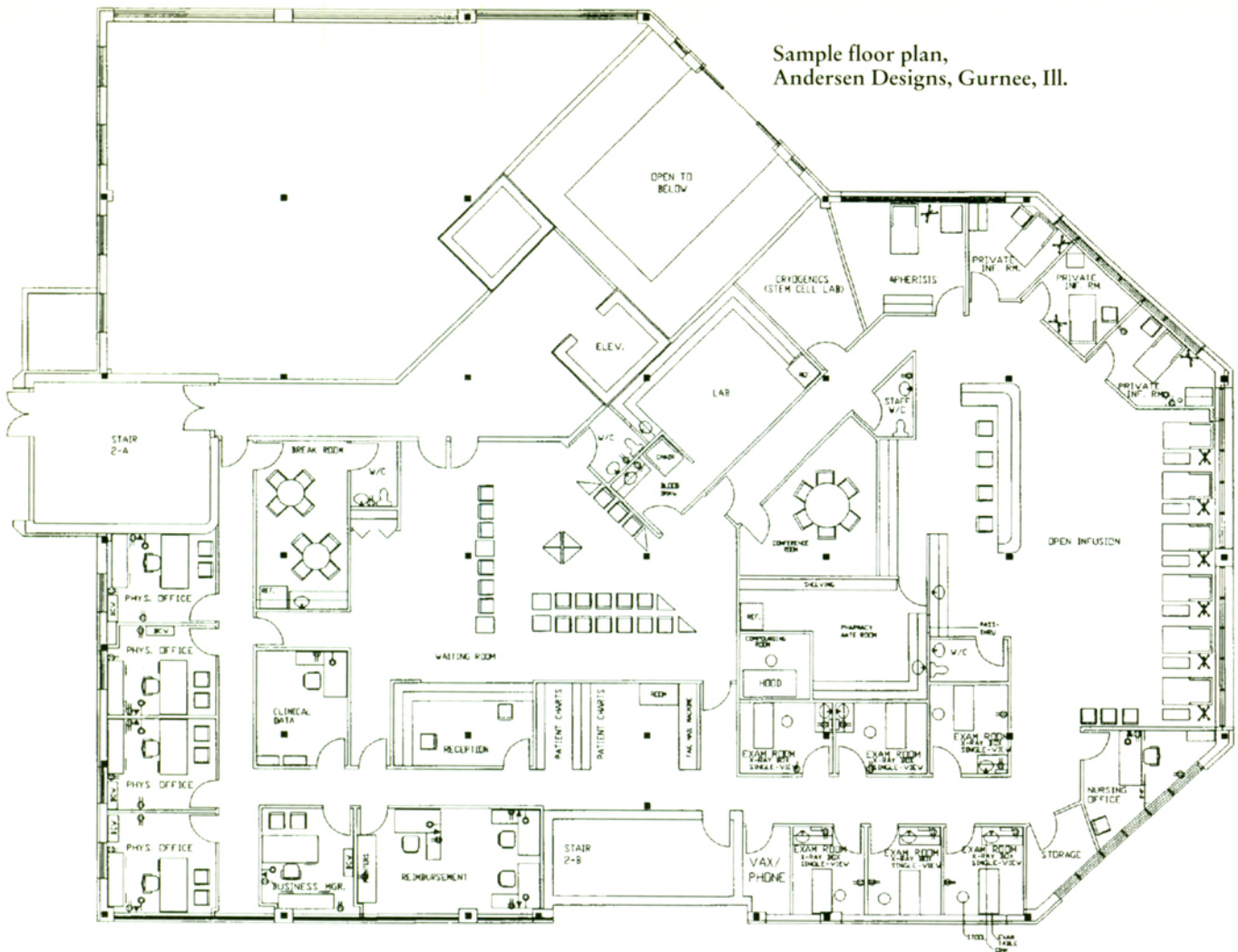
### **INSTALLATIONS**

Installations of phone, computers, and compounding hood (if vented to the outside) should be coordinated with the timing of construction. If completed before ceiling tile placement, laying the cables for phone and computers is easier and less costly due to decreased labor



Sample facility rendering, DeWinter & Craig, Grand Rapids, Mich.

Sample floor plan,  
Andersen Designs, Gurnee, Ill.



time. Installation during construction also reduces costs in materials. The cost for cabling may be further reduced by using a cabling vendor instead of the regular phone vendor. Be certain to obtain separate bids for installing cables.

The compounding hood should be moved in and installed while the HVAC contractor is still working on site so that the hood can be connected to the exhaust duct work (if hood is to be vented outside). Computer hardware should not be set up until construction is complete and a final cleaning of the suite has been finished; dust from ongoing construction and open ceiling tiles can result in costly damage to the hardware.

Furniture and equipment may need to be ordered fairly early in the process to allow for delivery. Deliveries will need to be coordinated with the completion of construction to ensure minimal damage.

Required items for the center should include:

- furniture for the waiting room, offices, general workstations/cubes, conference room, and break room

- office equipment, including computer system (terminals, workstations, printers, and servers)
- clinical equipment, including exam tables, treatment chairs, wheelchairs, IV poles, BP cuffs, and carts.

#### **VENDOR ACCOUNTS AND PROFESSIONAL SERVICES**

Prior to opening the new facility, numerous accounts must be transferred. Vendor accounts and professional services that will be needed include:

- drugs and ancillary supplies (wholesaler, local vendors)
- office supplies
- laboratory services (if physicians do not have their own)
- blood bank
- hazardous waste
- linen service
- answering service
- janitorial service
- pest control
- landscaping.

Before the door opens, let your staff have adequate time to properly set up and do a trial run of the facility. The clinical staff can simulate patient flow, install and train

on systems, and devise methods for materials storage and distribution before going live with real patients. The front office and business office staff can practice scheduling and rehearse patient orientation. Be sure to keep a punch list of needs and design changes for the contractor, subcontractor, and various vendors. A key aspect to consider is that a move to a new location is in itself a major undertaking. Avoid other major projects that may coincide with the move, such as chart conversions or system conversions. Introduce changes over a reasonable time period.

Plan carefully. Yes, there will be design modifications and problems for you all along the way. Adequate financing and contingency reserves are essential because costs rarely fall below or meet budget. Timelines and schedules must be reasonable and include allowances for adverse weather, construction delays, material delivery delays, and labor issues. Remember Murphy's Law. Also, remember that Murphy was an optimist. ■