

FACILITY DESIGN: AN ARCHITECT'S PERSPECTIVE

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Facility design is a collaboration between the owner and architect. The process is involved and can seem daunting at the start. The entire process can take up to three years. Before you embark on such a long, complicated journey, it is a good idea to understand the design and construction process. The process is a series of steps that take the Owner from broad conceptual ideas to highly detailed plans. With each step, the Architect gains greater insight about the needs and preferences of the Owner. Making the right decision at each step can make the difference between a smooth process and an over-budget nightmare.

The architect's decisions about your facility are only as good as the information you provide him. The better you understand what information the Architect needs, the better the final product. Successful projects start with two basic documents: a master plan and an operational plan. The master plan defines all of the physical elements of the project and how they fit together on the site. It should anticipate and accommodate future needs. An operational plan is the workbook on how you are going to maintain and operate the facility upon completion. The master plan and operational plan need to be developed concurrently. It makes little sense to build a facility that is too costly to maintain or operate. A successful facility will balance the demands of the master plan and operational plan.

It is a good idea to form a committee of individuals that have a direct stake in the outcome of the design. This allows for the exchange of information and can facilitate the decision making

process. Since most designs include program compromises, it helps to have all individuals directly responsible for the operation and maintenance of the facility involved in making the hard decisions. The design process is a great education tool. People involved in the process gain a detailed understanding of why decisions are made and what tradeoffs may be necessary to meet the design and budget objectives. Committee members having been through the process become strong advocates for the project. This is particularly useful in the future when the architect has completed the project.

MASTER PLAN PROCESS

The facility master plan is a road map of future physical development of the project site. It provides a framework for guiding decisions and improvements. Master plans are flexible like road maps. They may indicate a general destination, but there are various routes available. As conditions change, master plans should be updated and revised to keep them current. The first step of a master plan process is a condition assessment.

A condition assessment is a documentation of the size, condition, and suitability of existing facilities. It should document all of the positive and negative attributes of the existing facility. Questions that should be asked during a condition assessment might include: Are the playing fields regulation sizes? Are there a sufficient number of fields? What is the condition of the turf? Is spectator seating adequate? Is there a problem with delivery service to the concession stands? Upon completion of a condition assessment, the owner should have a detailed understanding of what works well with the existing facility and what does not. A condition assessment should

contain an inventory of all facilities. It includes size of the facilities, dates of construction, materials, descriptions and dates of major improvements and repairs, utilities, support equipment, and other relevant historical information. This provides the architect an understanding of how the site functions. It identifies user patterns and conflicts that need to be resolved during design.

A program assessment is the second step of the master planning process and includes an assessment of user needs. A needs assessment involves a detailed interview of the groups that use the facility. All current and potential future users should be contacted including interscholastic sports, physical education, intramural programs, club sports, and community groups. The owner should develop a profile of each user. This profile should include schedules of practices and games, number of participants, number of fields required, length of practices, length of season, number of spectators, and equipment needs. Users can also provide useful projections of future trends that would indicate the addition of new sports and teams.

The third step of a master plan is to determine facility requirements based on the condition and program assessment. At this point in the design process the architect and owner together will develop a program schedule for the site. The program schedule coordinates and optimizes all of the facility users. It identifies the preferred use of the site and eliminates schedule conflicts of user groups. After owner and architect agree on the program of use, the facility requirements are defined.

A clear understanding of the facility use allows the architect to determine the number of fields, types of fields, turf selection, and opportunities for multiple uses. Architects usually call the facility requirements an “architectural program”. All of the elements needed to accommodate the desired activities appear much like a shopping list. For example, the facility requirements of a football team might include one game field, two practice fields, a 20’ x 30’ synthetic drill area, 200 sq. ft. of equipment storage, portable bleachers for 30 spectators, restrooms, drinking fountains, and adequate parking for 40 cars per field. The architectural program is the document that most clearly defines to the architect what the facility should include and how it should function. The most common failure of facility design is a lack of clearly defined programs.

With the program in hand, the architect will design a layout of the site showing all proposed facilities. Architects are trained to creatively combine the program elements into a workable plan. This specialized training allows architects to offer solutions that are innovative. This step of the design process is like a jigsaw puzzle. Program elements are pieced together, combined, and placed on the site. The architect considers how each piece of the puzzle fits with the site and budget and in the process looks at how compatible each piece is with other pieces. The outcome of this process is the master plan. Although this aspect of the design process appears to be overwhelming, it is imperative that the owner spends the time and effort to really understand the proposed plan. The Owner should not assume the architect has correctly interpreted the program. If changes in the plan are necessary at this point, this is the time to make them. Changes made once the contract is awarded or facilities are under construction may be very expensive and cause delays.

OPERATIONAL PLANS

An operational plan defines how you operate and maintain a facility. The owner should develop the operational plan concurrently with the master plan. The steps required to develop an operational plan are similar to the master plan.

The first step is an assessment of the existing operations. An inventory of staff resources and maintenance equipment should be done. Staff resources include job descriptions, staffing costs, training requirements, qualifications, maintenance activities, maintenance schedules, and manpower estimates. A detailed assessment of costs to operate and maintain the facility should be done. The equipment inventory should identify the types of equipment, model, age, and condition. Improvements necessary to maintain and operate the facility should be identified. Additional staffing and equipment needs should also be considered.

The second step to develop an operational plan is to determine the operational program and maintenance schedule that compliments the activity schedule. Time required for maintaining the facilities, especially the fields, should be planned and scheduled. Recovery time for the turf is an important issue that should be included. The operational program is of equal importance to the architectural program.

The final step is to develop an annual operating budget. This budget should identify both capital improvements and recurring costs. Capital improvements include equipment acquisitions required to operate and maintain the facilities identified on the master plan. Many new facilities are designed without regard to operation costs. Operational plans, usually included as part of the architectural services, are often overlooked.

UNDERSTANDING THE PROCESS

Knowing what to expect cannot guarantee a problem-free project, but it can result in fewer and less severe problems. The process of collecting and freely disseminating information to the architect is key to understanding your needs. The better you understand your facilities, equipment and staff and how you operate, the better prepared you will be to manage the design of facilities in partnership with your architect.

Do not be shy about freely collaborating with the architect on design issues. Once the architect moves on to the next project in the office, you will have to live with the decisions made during the design process. Most of all, the architect would want you to understand the design. You should have a clear understanding prior to accepting major design decisions made by the architect. It is imperative that you provide your architect access to critical information needed to make the best possible decisions during the design process. Most importantly, you should remain accessible to the architect and be actively involved in understanding the design. This will ensure a pleasurable experience and guarantee a facility designed to meet your needs.