

Facility Design

Working with an architect

by Jeffrey L. Bruce, FASLA

Facility design is a collaborative project. The process can seem daunting at first, and it can take up to three years to complete.

Before embarking on such a long, complicated journey, it's a good idea to understand the design and construction process. This series of steps takes a facility from broad, conceptual ideas to highly detailed plans. With each step, the architect gains greater insight into the needs and preferences of the facility's team. The right decision at each step can make the difference between a smooth process and an over-budget nightmare.

Communication

Architects' decisions about your facility are only as good as the information you provide them. The better you understand what information architects need, the better your final product will be.

It's a good idea to form a committee of individuals that have a direct stake in the outcome of the design. This allows information exchange, and it facilitates decision making. Since most designs include program compromises, committees help involve all individuals who are directly responsible for the operation and maintenance of the facility.

The design process is a great educational tool. People involved gain understanding of why decisions are made, and what tradeoffs may be necessary to meet design and budget objectives. Having been through the process, committee members generally become strong advocates for the project.

Drawing plans

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 it outlines how they fit together on the site. It should anticipate and accommodate future needs. An operational plan is a workbook that lists necessary measures to maintain and operate the facility when the project is complete.

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 and operate. A successful facility will balance the demands of both plans.

Master plan

A facility's master plan provides a road map of future physical development. It gives a framework for guiding decisions and improvements.

Like road maps, master plans are flexible. 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.

• Condition assessment

The process begins with condition assessment. This documents all positive and negative attributes of your existing facility. It should contain an inventory that includes details of all facility resources: sizes, dates of construction, materials, descriptions, dates of major improvements and repairs, utilities, support equipment, and other relevant historical information.

Condition assessment questions include the following:

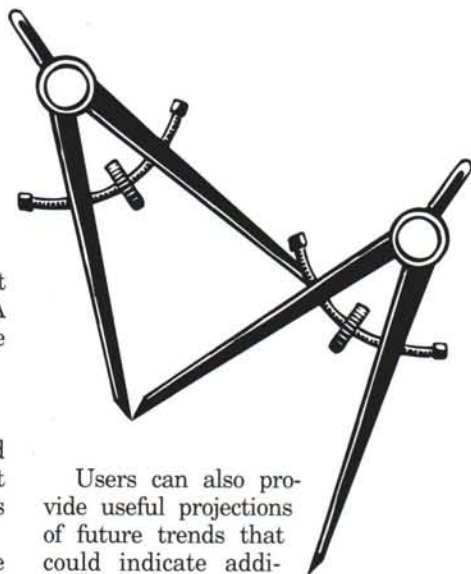
- √ Are the playing fields regulation size?
- √ Is the number of fields sufficient?
- √ What is the condition of the turf?
- √ Is spectator seating adequate?
- √ Is there a problem with delivery service to the concession stands?

Condition assessments give architects an understanding of how sites function. They identify user patterns, and conflicts that need to be resolved during design.

• Program assessment

A program assessment includes an assessment of user needs. This involves a detailed interview of the groups that use your facility. All current and potential future users should be contacted, including interscholastic sports, physical education, intramural programs, club sports, and community groups.

Facilities should develop profiles of each user group. Each profile should include practice and game schedules, 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 could indicate additions of new sports and teams.

• Facility requirements

Facility requirements are based on condition and program assessments. At this point in the design process the architect joins facility representatives to develop a program schedule for the site.

The program schedule coordinates and optimizes all facility users. It identifies preferred uses of the site, and eliminates schedule conflicts.

A clear understanding of facility use allows architects to determine the number of fields, types of fields, turf selections, and opportunities for multiple-use sites. 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, a football team's facility requirements might include one game field, two practice fields, a 20-foot by 30-foot synthetic drill area, 200 square feet of equipment storage, portable bleachers for 30 spectators, restrooms, drinking fountains, and adequate parking for 40 cars per field.

For architects, architectural programs most clearly define what facilities should include and how they should function. The most common failure of facility design is a lack of clearly defined programs.

• Layout

With the program in hand, the architect designs a layout of the site that shows all proposed facilities. 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 looks at how compatible each piece is

with other pieces. The outcome is the master plan.

This aspect of the design process may seem overwhelming, but it's imperative that facility decision makers spend time and effort to really understand the proposed plan. They should not assume the architect has correctly interpreted the program. If changes are necessary, this is the time to make them. Changes made once the contract is awarded or facilities are under construction may be very expensive, and they can cause delays.

Operational plans

Operational plans define how facilities are operated and maintained. The steps required to develop operational plans are similar to those required for master plans.

• Assessment

Operational plans first assess existing operations. They inventory all staff resources and maintenance equipment. Staff resources include job descriptions, staffing costs, training requirements, qualifications, maintenance activities, maintenance schedules, and manpower estimates. The equipment inventory

should identify the types of equipment, as well as the model, age, and condition of each piece.

At this time, improvements necessary to maintain and operate the facility should also be identified. All of this information will allow a detailed assessment of facility operation and maintenance costs.

• Schedule

Operational plans next develop operational programs and maintenance schedules that will compliment activity schedules. They plan and schedule time for maintaining the facilities, especially the fields. It's important to include turf recovery time in these calculations.

• Budget

Finally, operational plans develop an annual operating budget that identifies 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 are usually included

as part of the architectural services, but they are often overlooked.

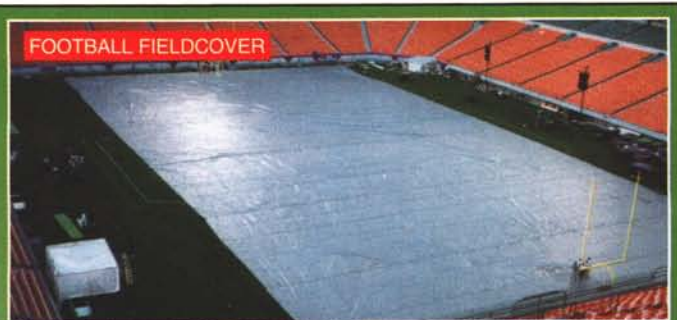
Knowing what to expect cannot guarantee a problem-free project, but it can result in fewer and less-severe problems. It's most important to remain accessible to the architect, and to be actively involved in understanding the design. This will ensure a pleasurable experience that produces a facility that meets your needs.

Jeffrey L. Bruce, FASLA, is president of Jeffrey L. Bruce & Company LLC Landscape Architects & Planners. He has more than 21 years experience in all phases of landscape architecture, site analysis, development, urban design, and sports field and irrigation design. He was elected Fellow of the American Society of Landscape Architects in 1996, and has received ten separate service and leadership awards and 16 design awards.

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