

This cliché, made famous through advertising associated with automobile oil filters, graphically portrays the relationship between present actions and long-term maintenance considerations.

Let's face it. We all tend to examine current expenditures more closely than costs we don't have to incur until some future date, particularly where the current expense of dollars or time is somewhat discretionary. Nowhere does this tendency seem to arise more prominently than in the area of planning and design. Fortunately, the public garden community over the past decade has consciously embraced a commitment to excellence in planning and design, and we are all the better for it. The quality of gardens continues to increase, and firms continue to come onto the scene which specialize in botanical garden and arboretum design.

But because of the complexity of contracting for and financing these services, many garden administrators enter the process with numerous questions. This article will address some of the basic issues one needs to know in order to obtain optimum benefits and services for a reasonable fee.

### **What Will It Cost?**

This question arises early in the minds of administrators and board members who are anticipating planning or design services. Before a valid answer can follow, there must be a clear understanding of service and payment options; how much design or assistance to a hired firm, if any, can be provided with existing staff; and the level of design quality the garden is willing or able to obtain.

Let's look first at the service options that are typical with planning and design. (See accompanying Chronology of Planning and Design.) Generally, planning would refer to global decisions that affect the entire project, such as the general conceptual layout of elements to be added to the property (master planning). Larger projects consisting of several construction phases may also benefit from planning overall design guidelines for all future projects or even construction phasing and implementation planning. The detailed identification of elements and characteristics to be included within each construction project, a process known as programming, should be the first activity in the site design process. Programming may be considered either planning or design.

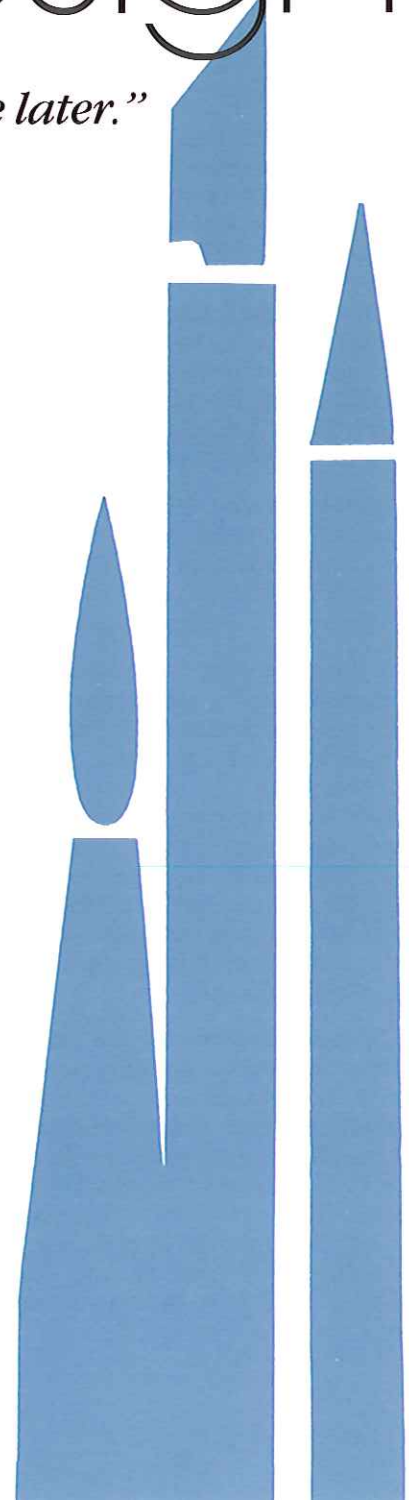
# The Cost of Design

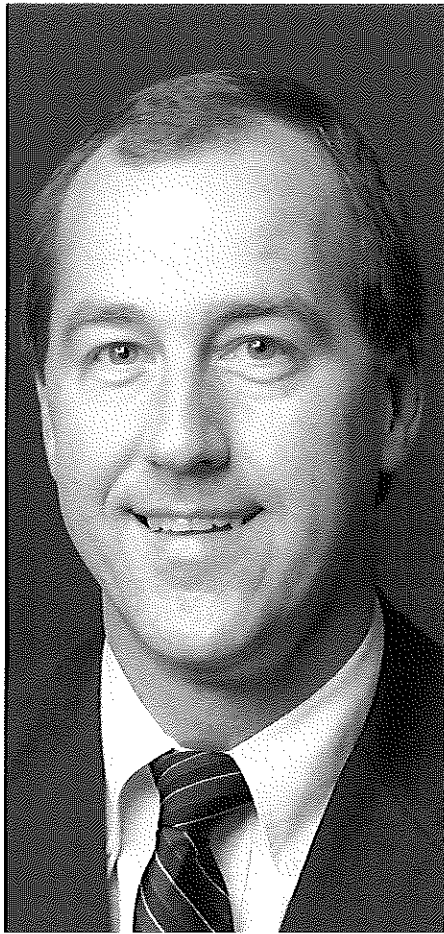
*"Pay me now or pay me later."*

**BY GEORGE BRIGGS**

Design is the physical configuration of specific components or areas such as buildings, roads or gardens. Design services consist of schematics, design development, working drawings and construction administration. Schematics involve loose, conceptual graphic techniques that study possible alternatives of layout relationships. Once the best alternative is identified, the design development phase polishes and refines the layout, adding material selection, finishes and other detailed decisions. The working drawing or construction document phase prepares the plans and written specifications that contractors will use to build the project. Construction administration, the final design phase, involves preparation of bidding and contract documents, as well as supervision of the project during construction.

The cost of these services is affected by a number of factors. Governmental projects are often required to follow fairly standard fee guidelines and, depending on the agency, may require some internal negotiation to obtain the services required to build a garden as opposed to the familiar public projects with which they work. Privately funded projects are less subject to red tape but also less able to obtain the technical assistance available in public projects. In general, the fees for public projects tend to be less than for private projects. Other factors that affect cost are the size and complexity of the project; the distance between the firm and the project; the number of professionals who would participate in the process; and the nature of the firm or





budgeting and accountability issues. Limits on the fee amount to be paid to the designer (known as maximum upsets) can be established with rate agreements, but the owner may find that a lot of job is left at the end of the money.

A key ingredient in all this is to define the designer's scope of work as carefully as possible before execution of a contract. This will avoid misunderstandings as work progresses and disillusionment at the end of the job. Owners unfamiliar with planning and design sometimes underestimate the time requirements and the complexity of issues that designers face. Take the time to read the provisions in the designer's contract to make sure that you understand them, particularly noting those that may have fee implications. For example, how will the design of changes during construction be handled? Is the owner responsible for supplying topographic surveys, mapping, testing information, models or other services to support the design work? Will there be fee add-ons if construction is delayed? Ensure that you are getting the level of review and interaction you need, and understand how the designer proposes to relate to you in the construction process. Make sure you understand any other costs—such as the use of consultants or reimbursable expenses for travel, printing, photoreproduction and related items—that are in addition to the design fees. Reimbursables alone can add as much as 15 to 18 percent to the designer's bill. Finally, be sure you understand specifically what the designer will put in your hand at the end of each phase of work.

Generalizing cost figures is difficult, but there are ranges that seem typical. The design component from schematics through construction administration seems to range somewhere between six and twelve percent of the construction cost. A recent informal inquiry of several garden administrators who are involved in garden construction projects indicates some trends. Those in governmental settings quoted six to eight percent, while most in privately funded gardens reported eight to twelve percent.

The planning components are often negotiated as flat fees and lend themselves less to generalization. Master planning could run as little as several thousand dollars for a straightforward layout on an uncomplicated site to as much as several hundred thousand dollars for a

major facility on a sensitive or difficult piece of land. Programming fees are also quite variable depending on the size and complexity of projects and the anticipated uses. Although a realistic general cost or percentage is almost impossible to specify, fees for master planning, programming and design guidelines seem to fall in the range of one to three percent of construction costs. Keep in mind that the master planning process should begin to identify preliminary cost estimates, so you may be negotiating master planning services with only a vague notion of an overall construction figure.

### **Managing the Cost of Design**

Since most gardens operate with finite resources while anticipating expensive maintenance needs, there is a natural temptation to minimize planning and design. Psychologically, it seems that every dollar spent on design is a dollar lost in bricks and plantings. But saving on design at this critical stage of development can lessen the quality and value of the ultimate product in terms of its function and visual integrity, eliminate presentation plans and drawings with which you can interpret the design to others, and very likely mean increased maintenance costs in later years. In fact, I would say that if you are wondering whether the normal cost of design is worth it, you are grossly underestimating a critical process that will have more impact on your garden's future than any other issue. Failure to plan and design well is expensive, and not just in dollars, and is more expensive, I believe, than most people realize.

How, then, can the commitment to good planning and design be maintained when funds for the services are nonexistent or limited beyond your control? There are some helpful, cost-cutting strategies, but cost-cutting measures have a price. Here are a few to consider, but remember that these economies may provide you with designers who have relatively little experience in garden design.

**Donated services.** Most states have professional association chapters—landscape architecture, architecture, engineering, etc.—that may consider donating their services to a public or nonprofit project. A short, intensive effort over a day or two (known in the profession as a charette) is the most common format. To be successful, these efforts require excel-

*Continued on p. 31*

firms hired. Obviously, the Michael Jordans of the design world will cost more than the smaller firm down the street.

Fees are generally handled by one of three methods. The flat fee agreement simply means that you tell the designer what you want, and you are given a lump sum fee figure. In a percentage of cost agreement, the design costs are based on a percentage of the construction cost. The third type of fee arrangement bases payment on the time spent by the designer. This can be an hourly or daily rate agreement, or an agreed multiplier (usually 2.5 to 3.5) times the designer's direct personnel expenses.

Flat fees are common for the conceptual early planning phases where no construction estimates exist and where budgeting procedures require numbers that are predictable. Percentage of cost most typically occurs with the design of site projects where a reasonably reliable construction cost estimate exists. It usually is to the owner's advantage to base the percentage on the construction estimates, assuming that they were computed competently, rather than on actual construction costs. Again, the fee amount is established early in the project and does not increase if inflation during construction increases the project cost. The hourly or daily rate arrangements can be somewhat open-ended since time estimates can be difficult to establish and can complicate



## THE COST OF DESIGN

*Continued from p. 11*

lent preparation on the part of the host institution.

**Academic project.** In locales close to a university with academic programs in landscape architecture or a related subject, instructors may consider using your project as a design studio problem. You may get some excellent ideas or identify good alternatives, but unless the program is quite advanced, solutions may be lacking in detail or depth.

**Design competition.** With limited funds and some coordinating help, a design competition can yield general solutions, assuming there is a pool of design talent in the vicinity of the garden. There is the possibility of some public relations awkwardness if no acceptable solutions emerge, and ownership questions can arise.

**Buy schemes.** A modified version of the design competition is to offer a set sum to several designers for quick schemes. This will give you some design ideas, as well as insights into the abilities and working styles of several firms or individuals before committing to any particular designer.

**Avoid overhead.** Design and planning firms charge hourly rates to recover their fixed and variable costs. A designer with low overhead expenses may be able to accept lower fees and still work profitably.

**Consider distance.** The farther a designer or firm is from the project site, the more you will pay for travel, lodging and food expenses, and the less interaction there will likely be between the designer and you. You may also be paying the designer the hourly rate during travel.

**Work in-house.** The more you can use in-house staff to provide information or to do detailed planting schemes for collections, the less you will pay for inefficient services. Most designers are able to create design schemes, organize circulation, structure garden spaces and fit the scheme to the site with relative ease. Use your own volunteers or staff to do the tedious layout of plant collections with the designer acting as an overseer. At The North Carolina Arboretum, we involve ourselves very heavily in the design process. Even if we save no money, we avoid overlooking potential problems and strengthen the final product.

**Be your own coordinator.** Many projects require architects, landscape architects and engineers to work in concert. If any one supervises the others, expect a 10 to 20 percent administrative surcharge. You can assume a coordination role and hire each firm with the requirement that some interaction is necessary. You may save some money, but you may also lose time and quality.

**Hire supporting consultants.** Sometimes consultants are necessary to provide specific insights during the design process. Having those consultants responsible to you rather than the designer also saves the administrative surcharge. This strategy can have the undesirable effect of complicating coordination and muddying the liability waters to your disadvantage.

**Negotiate.** Don't take a designer's fee quotes as a nonnegotiable item. Even though the designer may present detailed fee justifications, you may be able to whittle the cost down to a level you can afford. The designer may need to "buy" a project to keep his employees productive until some bigger jobs materialize.

### Looking From the Other Side

As both an arboretum director and a landscape architect, I see both sides of the fee issue. My experience has been that designers are motivated to work well but must protect themselves against underestimating the time required to do a project justice. With gardens there are two levels of design—the overall configuration and the potentially consuming task of defining and arranging the plant collections. In order to remain profitable, the designer must fit the work into a certain number of hours and control expenses.

A designer familiar with public garden design and with the design of other gardens will have to spend less time getting acquainted with the issues than one whose experience is in other areas. The more experienced designer may charge a higher hourly rate but may offer more efficiency, resulting in competitive overall rates and design solutions that have the capacity to inspire elevated goals.

There quickly comes a point where cost-cutting in planning and design chokes the potential of your dream and reduces your ability to stir in others a vision that stretches their capacity of achievement. Regardless of the option

you choose, don't skimp on planning and design if you can possibly avoid it. "Pay me now or pay me later" is just as valid in the garden as it is under the hood.

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## Chronology of Planning and Design

### Global Services

**Goal Setting:** Defining the mission and general goals of the institution and initial identification of audiences.

**Master Planning:** Determining the conceptual arrangement of facilities and circulation on the land and initial budget planning.

**Design Guidelines:** Establishing overall design decisions that will guide the designer(s) of specific site projects.

### Site-Specific Services

**Programming:** Identification of the specific users, uses and qualities of a proposed site project.

**Schematic Design:** Sketching easily-changed alternative concepts of site development, including analysis of the relationships among the proposed site components.

**Design Development:** Refining the physical form, aesthetic character and detailed budget for the project into a relatively finished state.

**Construction Documents:** Creation of the detailed working drawings and written specifications from which a contractor would build the project.

**Bidding:** Advertising for, managing the opening of and assisting in the selection of bids from prospective contractors.

**Construction Administration:** Supervising construction, processing change orders, conducting construction meetings and general representation of the owner.