

Tennis Technology

- ***The 10 Steps...***
 - ***Planning New Courts or Renovating Those You've Got?***
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Good planning results in good building. There are 10 Steps that Alex Levitsky and Sheldon Westervelt of Global Sports & Tennis Design Group recommend before starting construction of a new tennis facility or renovating an older complex. Although, these designers of distinguished tennis facilities feel that each project has unique qualities, the following steps describes a process that would be helpful in the design of most facilities.

Step One: Determining the Demand for Your Improvements

The first step is determining that there is a demand for your development. Marketing, sales, planning and other professionals can help you prepare a comprehensive strategy.

Step Two: Selecting the Design Team

Once confident that the "numbers work", the Owner should assemble the Design Team and designate the Primary Consultant. A Tennis Facility Design Team is often made up of a Tennis Facility Designer, an Engineer, a Landscape Architect and an Architect. If a Design-Build option is chosen, a General Contractor is included in the team.

Step Three: Pre-Site Selection Evaluation

Next, the Owner should select a site.

Most developers fit into two categories: a property owner that wishes to develop his parcel for a sports facility and wants to know what will be appropriate for his/her site, or an investor that wishes to develop a specific facility and wants to know what property would best suit his/her needs. Step Two applies to the later.

When selecting a site, a professional planner can evaluate development possibilities and help select the best site for the sports facility. A planner can also identify issues that may result in higher development cost or hinder construction such as: site contamination, wetlands buffers, easements, zoning restrictions, historic and archeological limitations, and subsoil irregularities.

Step Four: Preparing a Program

Regardless if you are developing a site you own or you are looking for a site for a specific facility, it is important to determine what the scope of the development should be. A Program will synthesize:

- Project Goals & Define Your Tennis Program Objectives
- Physical Analysis of the Site, and
- Cost and Timing Targets

The Program aids in the preparation of a schedule and establishes consultant responsibilities. It also outlines the physical improvements, including a phasing plan if one is necessary.

Step Five: Site Analysis

Customarily, the Analysis includes both an Economical Analysis, as well as Physical Analysis. The Analysis includes study of the following:

- Adjacent Land Uses,
- Traffic and Access,
- Physical Characteristics of the Site,
- Target Markets of the Various Elements of the Project,

- Competitive and Comparable Project in the Area,
- Boundaries,
- Topography and Slope,
- Hydrology,
- Geology,
- Landscaping
- Climate,
- Ecological Factors,
- Utilities
- Infrastructure,
- Historical and Archeological Locations,
- Regulations and Zoning, and
- Legal Requirements and Required Approvals.

Step Six: Conceptual Design and Master Plan

In this stage of the process, initial observations and impressions are interpreted into conceptual land use diagrams, reviewed by the Design Team, and revised to meet project requirements. As part of a Conceptual Design, the Team:

- Represents the requirements of the Program in the form of diagrams,
- Gathers preliminary development costs,
- Illustrations that show alternative concepts and special features,
- Present preliminary phasing plans,
- Research indigenous historic architectural styles,
- Establish design criteria as required by local codes,
- Document appropriate square-foot requirements by facility,
- Determine the sub-soil conditions,
- Develop a water management plan,
- Identify the utilities,
- Illustrate the road and walkway system.

By the end of this phase, the Design Team completes a Master Plan in sufficient detail to permit the Owner to make significant decisions regarding the development. The Owner may choose to review the plan at this time with government agencies and address their concerns and implement their recommendations during the preparation of the Preliminary and Final Design phases.

Step Seven: Preliminary Design

After review and approval of the concepts and after funding is in place, the Team works to refine functional, aesthetic and economic requirements of the first phase of the project. Detailed design begins for this designated initial phase. In addition to enlarged plans, site sections and elevations are prepared.

- Show what will be removed,
- Indicate the alterations to the topography,
- Preparing plans and elevations of the structures,
- Illustrating the layout of the courts and amenities,
- Show the locations of the roads and walks,
- Illustrate the storm water runoff plan,
- Show the extent of the improvements to the utilities,

- Layout the landscaping, and
- Refine the estimate of probable costs.

Step Eight: Design Development

Once the Preliminary Designs have been approved, a detailed design is developed for all improvements. These illustrations become the base drawings for the Construction Documents.

Drawings are enlarged to show the following information:

- Plan layout of all parts of the project,
- Sections of buildings and improved areas,
- Elevations of all new elements,
- Illustrations of details, and

Designs usually include:

- Courts,
- Fencing,
- Player and Spectator Areas,
- Curbs and Walks,
- Grading.
- Drainage,
- Lighting,
- Water, Electric & Communications,
- Nets and Posts,
- Drinking Fountains and Shade Shelters,
- Landscaping,
- Roads and Parking,
- Clubhouse,
- Maintenance & Storage,
- Seats & Bleachers, and
- Other Tennis Facility Amenities.

In addition, a refined estimate of probable costs is completed.

Step Nine: Construction Documents

After review and revision of the Design Development drawings, notes, specifications and dimensions are added in a detailed format suitable for construction. The package illustrates all of the project components and instructions for their construction, including:

- Fully dimensioned architectural and engineering plans,
- Details and Sections,
- Specifications, and
- Schedules.

Step Ten: Bidding.

After documents are complete, a Bid package is prepared to allow Contractors to bid on the work in an organized manner. This final phase, before construction begins, includes the following:

- Instructions to bidders regarding the procedures that will be required of them during

construction,

- A proof of Contractor's qualifications,
- The insurance, bonds and other assurances that are required, and
- A form for proposing a price and timetable for the construction.

After bids are received, the Principal Consultant assists the Owner in selecting a qualified Contractor. This includes an interview of the successful Bidder and review of the Bidder's past performance and cost compliance.

And with this process completed, construction begins.

By Alex Levitsky and Sheldon Westervelt