



Walking the site with the Landscape Architectural team from Rees Roberts in NYC, we started identifying the scope and the direction for the landscape lighting. Photograph: George Gruel.

Assessing Project Needs

As with all architectural design processes, lighting design is based on creativity and responding to project needs. The development of a responsive design concept results from collecting information about the project. Some information will be gained during the initial interview for the job, but the bulk of it is gathered once a contract has been signed and the project has begun. This chapter addresses the information-gathering stage of the project, which includes:

- *Interviewing the client(s) and other design team members to establish the scope and design direction of the project*
- *Reviewing the plans to gain an understanding of the landscape design concepts*
- *Visiting the site to gain a visual understanding of the project*
- *Synthesizing the information to create a base from which design ideas will develop*

INTERVIEWING CLIENTS AND THE DESIGN TEAM

Interviews present an opportunity to start collecting valuable information about the project and develop a working communication channel between members of the design team. The lighting designer can learn how various team members feel about light and their desires for the lighting approach or its effects on the project. Interviewing other consultants, such as the irrigation or soils engineers, provides the link to valuable technical information.

Clients

Many clients have limited understanding of the design process involved in lighting or what can be done with light to create an atmosphere. They often have preferences about the atmosphere, but no idea how to achieve it. Interviewing the client or end user builds the foundation for successful landscape lighting. The interview can open a strong communication channel between client and designer, which will help throughout the project. It can develop a trust between the client

and the designer that encourages the client to rely on the designer for guidance throughout all phases of the project.

In interviewing clients, ask questions that allow clients to provide information regarding their design needs and desires. Then, listen carefully to the information they provide. Discuss the client's personal feelings about light, the anticipated use(s) of the landscape at night, the anticipated maintenance of both the garden and the lighting, budget constraints, and deadlines. Break the discussion into three distinct categories: information retrieval, information dissemination, and client commitment.¹ During each area of discussion, ask questions to retrieve needed information, then provide the client with choices or guidance, and finalize the discussion with an understanding between client and designer.

Consider showing a portfolio. This presents the designer's experience and introduces lighting ideas to a client. The designer can lead the client through past projects, discussing how the lighting effects and techniques shown in the photographs relate to this project. It provides a time for client feedback and discussion of their lighting goals. This is the time for the designer to show strengths that relate to this client's project. The strengths can be creativity, technical knowledge, construction experience, or simply a history of quick project completion.

Offer to take the client and other design team members on a tour of local projects. This experience clearly shows clients what lighting can do for a landscape and showcases the designer's skills and abilities. These visits often stimulate clients' thinking about lighting, triggering new feelings or ideas about lighting their property.

Clients' Expectations

Ask clients their feelings about light and their expectations of lighting in their landscape. People want landscape lighting for various reasons: view out from inside a room, use of the space for one or more activities, identification of the property, safety of people in the landscape, and security of people and property

on the site or inside buildings. They often do not even have a clear idea of what they want. The designer must have a clear idea of the client's expectations before embarking on a design concept. When interviewing a client, be sure to cover the following points:

- Understand the client's basic likes and dislikes about landscape lighting. Some clients want to see beautiful fixtures; others may want fixtures totally hidden. The client may want a dramatic scene with high contrast (see Figures 1.1 & 1.2) and limited areas lit, or the client may be sensitive to glare and prefer less contrast (see Figure 3.12).
- Determine what the client dislikes about the existing lighting (or other landscape lighting that the client has seen). Ask about lighting the client has seen and likes, including specifically what attracted the client's attention to that lighting. It may be a neighbor's lighting or something the client saw in a magazine. Understand the client's light level requirements. What does the client mean by "a little" or "soft" lighting? How much light is "a lot" of light?
- Discuss what impelled the client to install landscape lighting. This will give the designer information about the client's perspective on landscape lighting. Often, a specific event or issue sparked the client's interest. It may be safety, the need to see the way from a door to a parking garage, or a desire to see the landscape at night.
- Talk about the atmosphere or appearance the client would like to create. Encourage the client to use adjectives to describe the scene. Words such as "dramatic" and "theatrical" present a different image than "simple" and "subtle."
- Inquire about the impression the client would like visitors to experience. Answers will vary from drawing attention to the site to impressing visitors to welcoming guests.

Next, discuss space use issues. Often clients will not know how they will use their outdoor spaces once they have lighting. Ask specific questions about the kind of entertaining or daily/family use the client might envision. Ask about the type, size, and frequency of events the client might want to plan. This starts to define a client's goals for the project.

- Discuss what activities will take place in the landscape after dark. In many areas, there may not be any activities outside at night (due to climate) during certain times of the year.
- Consider activities that occur inside buildings and the importance of view out to the landscape.
- Determine specific lighting needs or expectations. When several needs surface, this may indicate that flexibility will be required in the lighting system controls.

- Explore safety and security issues.
- Discuss who will be using the space(s). Older people or people with any visual disabilities have special lighting needs that must be considered in planning the lighting.

Maintenance

Two kinds of maintenance issues should be discussed: landscape maintenance and lighting maintenance.

Landscape Maintenance

Consider changes that could occur to the landscape over time—decks, pathways, patios, structures, or sculptures that may be modified, added, moved, or removed.

- Inquire who provides normal maintenance.
- Ask what services are included in normal maintenance.
- Ask about the maintenance schedule.
- Discuss whether the basic planting design will develop further over time.
- Determine if seasonal planting occurs in certain areas. This may mean not installing lighting fixtures in that planting area. Working around fixtures while maintaining the planting can be cumbersome and fixtures can be knocked out of adjustment.
- Ask who makes the planting decisions. This decision maker might be the landscape architect or designer together with the owner or the head gardener. This person(s) should be included in the discussion of the lighting design and briefed on the required maintenance of the lighting.
- Inquire about fertilization, including both schedule and materials used. Due to corrosion implications, this fertilizer information may affect the lighting equipment selection.
- Ask about plant pruning. Hedges may be cut to keep at a certain size – or may be planned to keep to a certain size as they grow. Specimens may be shaped or groomed for various reasons including allowing good air movement through branches, keeping or creating a specific shape or form. This may affect a designer's approach to the lighting concept.

All these issues indicate how careful the designer will need to be in the selection and placement of fixtures. Unless the owner maintains the grounds, few people working at the site understand the necessity of not moving the fixtures and coordinating the maintenance of the landscape with the lighting to preserve the lighting effects.

Lighting Maintenance

Prompt the client to think about the future. Successful lighting depends on long-term functionality of the system. This requires proper maintenance and the ability of the lighting system to grow and change with the landscape.

Any discussion of lighting maintenance requires educating the client. As with the landscape, maintenance of the lighting system requires continuous design input. Landscapes continually change due to hardscape revisions or use changes, as well as plant growth and death. Changes require lighting adjustments to maintain desired effects, such as adding or deleting fixtures, moving fixtures to retain effects as plants grow, and changing lamps to different wattages or beamspreads as plants mature. Also, lamps burn out and must be replaced over time. Identify who will be the appropriate person to provide the lighting maintenance. After the design has been installed, familiarize this person and the owner with the operation of the fixtures.

Maintenance of lighting can be part of the lighting designer's contract with the owner. An effective approach includes an annual site review by the designer. After surveying the existing conditions, the designer can recommend what maintenance, if any, should be done.

The timing for this site review will vary based on the garden maturity when the lighting is installed. A newly planted garden will need lighting maintenance sooner and more frequently than will a mature garden. This concept must be discussed with the client at the beginning of the project for the client to understand fully the implications of landscape lighting.

Budget

One of the most critical factors to an owner is budget. Clients unfamiliar with lighting costs may have no idea what to expect or have an unrealistic expenditure in mind. Bringing up this issue during the initial interview prevents wasted design time, avoids introducing the client to ideas or equipment inappropriate for the project, and maintains good relations throughout the project.

Determine the anticipated life cycle for commercial landscapes or how long an owner plans to live at a residence.

Ask what budget, if any, has been planned.

Provide the owner with basic cost information to help develop a preliminary budget.

When the budget is limited but the owner wants thorough lighting, consider planning the project in phases. This stretches the budget over a longer time frame and eliminates inconveniences at a later date. For

example, plan a complete lighting design, install conduit throughout the landscape for future power distribution, but limit the initial fixture installation to areas directly around the building. In this case, always budget the total installation and plan a schedule for installing the remainder of the design to ensure that it happens.

Deadlines

The last area to cover, in questioning the client, involves time. Whether the project is a large public commercial project or a small private residential project, involving only lighting installation, deadlines exist. One or more of the following six deadlines may be involved:

- Design
- Installation bids
- General construction
- Preliminary wiring
- Installation completion
- Aiming/adjusting the lighting system

The lighting designer should be brought in to start planning the landscape lighting after the landscape design has been substantially completed but before final construction documents are completed. Lighting ideas may affect other areas of design, such as structural details or planting layout, and need to be addressed while changes can still be made. A schedule needs to be agreed upon by all parties (including the owner, other design team members, and the lighting designer), allowing the lighting designer time to evaluate and plan the lighting while still fitting into the overall project schedule. Take care not to let unrealistic deadlines push the lighting design too quickly. The time required for conceptual design, design development, and construction drawings will vary from project to project, based on the project size, complexity, number of people involved in the design process, and the lighting designer's workload.

The most crucial deadline is completion date. Bank loans for construction may be involved, as may scheduled use of the landscape. Commercial projects may be working toward the opening of a public park or a major public appearance of a political, religious, or entertainment figure. Residential projects often need to function for a special party.

In collecting all this information about the project, conflicts may arise between scope and budget. Possible solutions include phasing the project, using less expensive equipment to retain the overall design intent, simplifying the design intent to retain high-quality fixtures, or discussing increasing the budget with a client who has the means. In some cases, a chunk of the budget can be saved by having the client tackle

the installation. This requires experience in electrical installation. Discussing all these issues at the start may avoid potential conflicts from occurring during the planning stage of the project.

Other Design Team Members

Most projects consist of a group of design professionals—landscape architects, interior designers, engineers (including structural, mechanical, electrical, and soils), fountain designers, and other specialists (including geologists and lighting designers). Consider how each member affects the lighting design and coordinate with them.

Start talking with the landscape architects, as it is their design that the lighting complements. Discuss the atmosphere envisioned for the night appearance of the garden. Listen carefully for clues about their approach to the project and solutions to the design issues. The landscape architects may have in mind a clear view of the lighting but not know how to achieve it. Or they may not have developed any concept and want to discuss all the options. Discuss how the site relates to neighboring properties. Should the lighting relate to them visually or remain visually separate?

Ask the landscape architects to walk through the project, either on plan or at the site, and discuss their design concepts for the landscape. Together, identify any special lighting needs. For example:

- Traffic patterns for new sites

- Changes of traffic patterns on an existing site
- Areas with specific uses requiring specific lighting, such as sports areas, gathering places for parties, or other functions
- A particular vista or focal area requiring special attention
- A specimen plant, sculpture, or architectural feature meant as a prime focal point
- Grade changes such as stairs or berms that lighting should address for safety

The client may also supply some of this information. In case of conflict between the client's vision of the landscape and the landscape architects' vision, be sure to clarify the design direction in the most diplomatic way as quickly as possible.

REVIEWING ARCHITECTURAL AND LANDSCAPE PLANS

Thoroughly understanding a landscape design helps the designer plan lighting that responds to all the project needs. Drawings build a picture of the completed landscape in the designer's mind. Before starting to develop a lighting concept, gather and study all the available drawings on the project.

With new construction, procure both architectural and interior design drawings of the buildings on the site,



Figure 1.1. Photo of pool garden immediately after construction. Look at figures 1.8 and 1.9 to see how the landscape designers' sketches gave valuable visual information to help in design. Landscape Design: Magrane Latker Landscape Design; Photograph: Janet Lennox Moyer.

including building layouts and furniture layouts, along with sections, elevations (see Figure 1.2), lighting plans, and details. The architectural drawings show how the building(s) fit into the landscape and the views from the interior to the exterior, and vice versa. The physical appearance of the building itself is an element to consider in the landscape lighting. Locations of windows identify view areas within buildings. Furniture arrangements further clarify how people will view the landscape through the windows. Elevations show window size and positioning in a space that helps direct fixture location and aiming to accommodate night views.

Procure these drawings from the landscape architect:

- Site plan
- Demolition plan
- Grading plan
- Hardscape plan
- Elevations
- Irrigation/plumbing plan
- Electrical plan
- Planting plan
- Construction details
- Sections
- Perspective drawings

Each of these drawings helps build the lighting designer's understanding of the project and represents a

strong communication tool between the two designers. Sometimes the landscape architect does not realize how these drawings help the lighting designer. The following list identifies the importance of each for the lighting designer:

- The *site plan* provides orientation to the landscape on the site and an overview of all areas comprising the project.
- The *demolition plan* identifies what is being removed from the existing layout of the landscape.
- The *grading plan* shows changes in elevation throughout the site.
- The *hardscape plan* introduces the organization of the garden as well as traffic paths, stairs, decks, patios, pergolas, and other structures, such as retaining walls. It shows the juxtaposition of living areas, work areas, view areas, focal points, parking areas, equipment rooms, and other visual or activity areas included in the landscape design (see Figure 1.3).
- *Elevations and sections* provide details not evident on any plan. They show the effect of natural or modified grading on elements within the landscape (see Figures 1.3 & 1.4). These often provide information as to how and where to mount lighting equipment.
- The *irrigation plan* shows where new ditches will be dug and water conduit installed, as well as the location of irrigation heads and other irrigation equipment.



Figure 1.2. Comparing day (Figure 1.2) and the night lighting shows how lighting can transform a landscape. The bench at the end of the pool is the focal point (20 watts in the 1980s); the line of lighting mounted under the pool coping visually expands the garden's depth; and the "ground plane" is lit to the brightest level making the space human-friendly. Lighting Design: Janet Lennox Moyer, MSH Visual Planners; Photograph: Michael McKinley; Landscape Design: Magrane Latker Landscape Design

Chapter 1 Assessing Project Needs

- The *electrical plan*, done early in the project development, locates the main electrical service for the landscape, locates the equipment room(s), and ensures that sleeves for electrical distribution are installed under hardscape in the early phases of construction. This plan may be produced before the lighting designer gets involved in the project. It may be done by the electrical engineer on large projects. At other times the landscape architect includes the information provided by the lighting designer on an electrical sheet.
- The *planting plan* adds a new layer of information about the landscape design. It is part of the “decoration” of the space. Planting plans may be simple or complex. Landscape architects vary in the way they present planting plans. Often, they use a symbol for each plant type with an identification line leading from the symbol to the margin of the drawing where the plant name is listed. For typical trees and ground covers, a symbols list may be provided on the drawing. Sometimes a separate list of plant identification is produced and not printed on the drawing. In this case, be sure to procure that list (see Figures 1.5 & 1.6).
- *Construction and/or structural details* give added information about the seating, stairs, trellises, pergolas, sculpture bases, tree wells, stages, and buildings. These details further clarify the design and provide information regarding potential fixture mounting locations.
- *Perspectives* provide a realistic view of the completed project. Look at the before and after landscape photographs, along with perspective drawings, of a residential project in northern California in Figures 1.2 & 1.7 to 1.9. This series of views show how much a garden can change during landscape development. They also show how clearly the perspective drawings show the final design. This information completes the picture of the landscape, helping the lighting designer fully understand the landscape design.

Sometimes no landscape drawings exist, limited drawings exist, or the drawings are under development. The type of available drawings influences the way a lighting project develops. When no drawings exist on completed, mature landscapes, the lighting designer has three options. Each of these approaches has drawbacks:

- To develop landscape drawings
- To draw rough sketches of the landscape
- To work without producing lighting drawing

Developing landscape drawings adds significantly to the project cost and requires hiring a landscape architect. Working with rough sketches requires close coordination between the lighting designer and the electrical contractor. Small projects can be done without producing lighting plans, but again increases the designer’s on-site involvement and coordination effort with the electrical contractor. All fixtures, wiring trenches, and transformers must be field-located and noted in some way — either in a sketch/drawing or a photo or both for future maintenance reference.

Models help in visualizing complex structures and understanding the landscape construction opportunities. Borrow the model (when possible) while developing the lighting concepts and photograph the model for future reference. If the landscape architects are seriously debating whether or not to build a model, your explaining how it could help on the project may be all the impetus they need to produce one.

VISITING THE SITE

Visiting the site is imperative. It helps the designer understand how the property fits into the neighborhood. It shows existing elements (plants, structures, etc.) important to the final design. Vistas will become apparent, including views:

- Within the landscape (from one area to another)
- From the garden to other properties

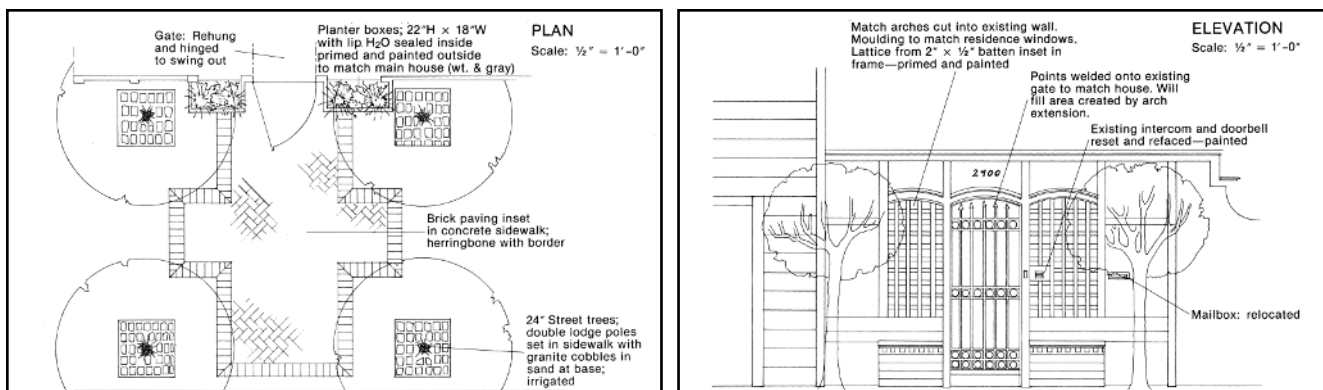


Figure 1.3. Hardscape plan and elevation at garden entry — Thornton residence in San Francisco, CA. The hardscape plan shows the changes to the street access and the new planting and entrance structure. Elevations and sections show style and detailing. This decorative information never shows on plans. Landscape Design: Magrane Latker Landscape Design; Drawing: Lezlie Johannessen.

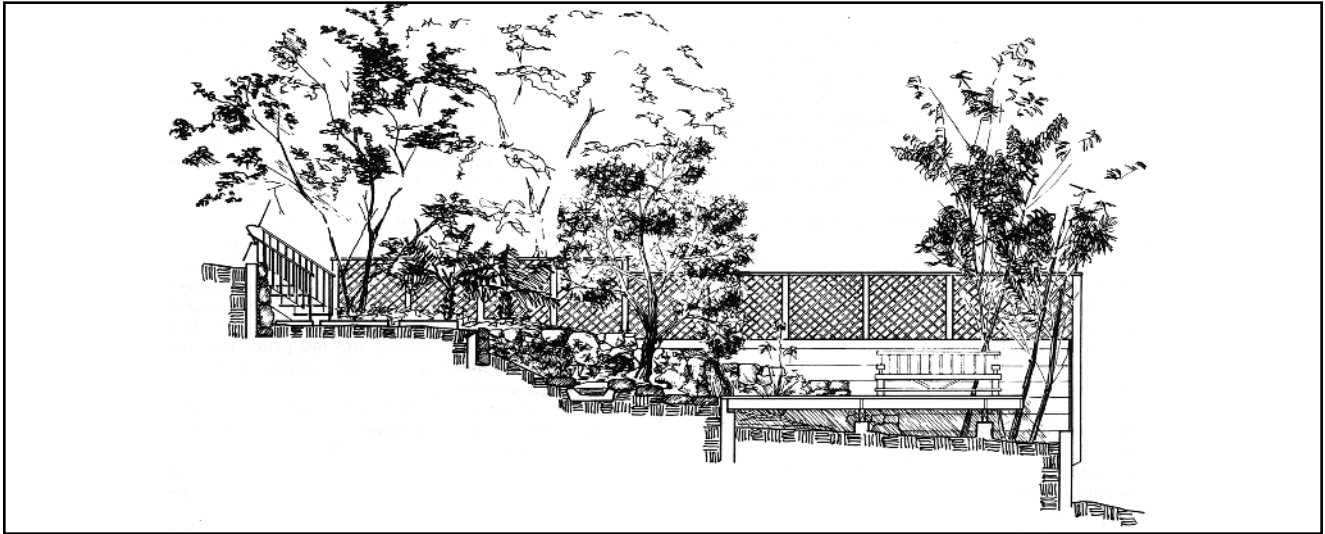


Figure 1.4. Elevation showing grading effect on a garden/private residence in San Francisco, CA. This elevation shows the drop in grade through the site and the relationship between areas that the grade change presents. Also, mounting locations for light fixtures or auxiliary electrical equipment can be identified. Design and Drawing: Gary Millar.

- From the landscape into buildings on the site
- From buildings out into the landscape

Look at all these views to help build a mental image of the scene. Include glimpses around corners or from one area to another. Take care to light juxtaposing areas, as this will be important to the success of the lighting. Provide a “visual destination” at the end of a walkway or a view and outside windows. Study views of the landscape from streets or adjacent properties. This helps determine how the initial view of the garden should appear and how to avoid light pollution or glare going into neighboring properties. Also, make note of any lighting on adjacent properties that may affect the project.

Documenting Site Conditions

Note any existing conditions that may affect design decisions for the lighting:

- Roof overhangs for potential recessed or surface-mounted fixtures.
- Existing hardscape that will remain.
- Location(s) of existing power in the landscape.
- Location of the existing power supply panel. When a panel does exist, inspect it for overall capacity, capacity currently used, and total spare capacity. Be sure to assess how much of the currently used capacity will remain used and the amount that will be freed up for new lighting use. Early evaluation of potential total wattage will show whether the electrical service is large enough or needs to be upgraded.
- Any existing or potential safety hazards that will or might need lighting attention. This would include the edges of pools, fountains, streams, or other

waterways; changes in elevation and stairways; and paths or walkways through the site.

- The relationship of adjacent properties. Surrounding properties should be included in the designer’s thinking to ensure that no light trespass or annoying glare affects these neighbors or inadvertently lights their building. Learn about the owner’s relationship with neighbors. Neighbors may be able to help during the project, such as providing access for equipment to the site or other unforeseen issues. Understanding their sensitivities may allow the lighting designer to allay any client/neighbor tensions that could develop over the new lighting.

Make notes and sketches about impressions of the site and lighting ideas. Try to visualize the proposed landscape improvements as well as absorbing existing conditions.

Photograph every view and every detail of the site. The photographs help recall the site while working on the design. A project that is close by allows the designer to revisit the site. If the site is not near enough to revisit easily, take more photographs than seems necessary. The one view critical to finalize a detail always seems to be missing. Again, make notes about impressions or lighting ideas. These can easily be forgotten by the time when design actually starts.

Soil Considerations

Soil information can prove to be critical. Soil penetration and soil stability varies radically from one soil type to another. The mounting detail for light poles will therefore vary from one soil type to another. Clay soils may be difficult to penetrate and will affect construction cost due to additional trenching time required for conduit and additional time required

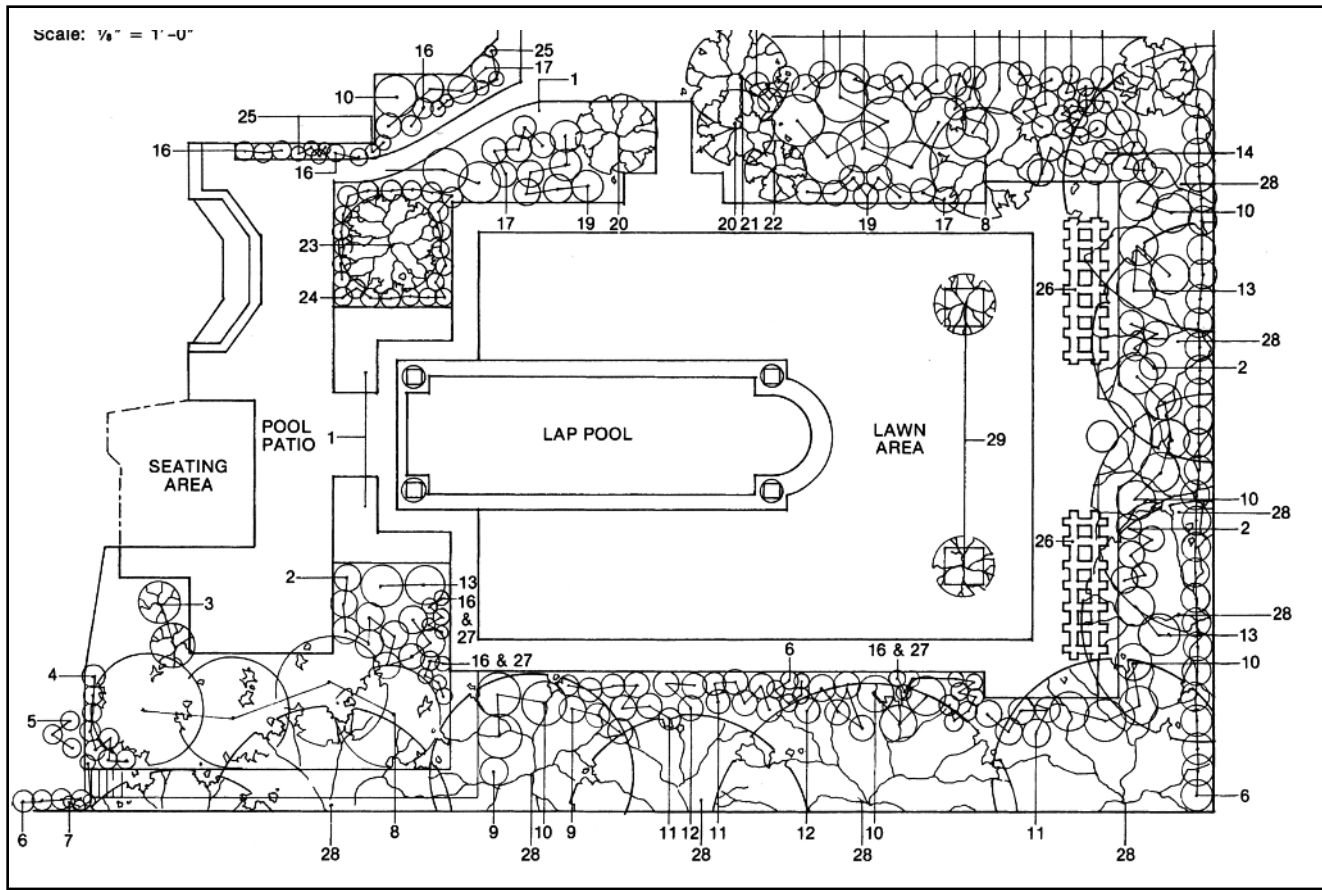


Figure 1.5. Planting Plan. The planting plan provides information about plant types and locations in the landscape. Understanding each plant's characteristics, as well as, the integration of each individual into the overall landscape design, helps the lighting designer develop a lighting concept. Landscape Design: Magrane Latker Landscape Design; Drawing: Lezlie Johannessen.

PLANT LIST FOR POOL GARDEN

1. Perennials to be selected
2. Azalea—*Belgiam indica* hybrid
3. *Cornus finbriata*
4. *Sarcococca hookerana humilis*
5. Annuals, rotational
6. *Syzygium paniculatum*
7. *Zantedeschia* hybrid
8. *Camelia japonica* (existing)
9. *Woodwardia fimbriata*
10. Rhododendron species
11. Azalea—Kurume hybrid
12. *Hydrangea quercifolia*
13. *Viburnum plicatum tomentosum 'Mariesii'*
14. *Camelia sasanqua* hybrid
15. *Viburnum davidii*
16. *Liriope muscari*
17. Azalea—Southern indica hybrid
18. *Camelia japonica* (existing)
19. *Camelia sasanqua 'Apple Blossom'*
20. *Acer palmatum 'Bonfire'*
21. *Acer palmatum* species
22. *Acer palmatum 'Roseo-Marginatum'*
23. Citrus (existing)
24. Hemerocallis hybrid
25. *Berginia crassifolia*
26. *Wisteria sinensis*
27. *Bergenia ciliata*
28. *Quercus agrifolia*
29. *Cornus florida*

Figure 1.6. Plant List: The plant list can take several forms. It may simply be a list with the Latin or botanical name and the common name or it may be the Latin name only, as shown here. It may list the names and have symbols for easy recognition of each plant on the plan. Sometimes there will be a combination of lists and symbols or just an arrow pointing to the plant with the name printed outside the drawing boundary. Landscape Design: Magrane Latker Landscape Design.

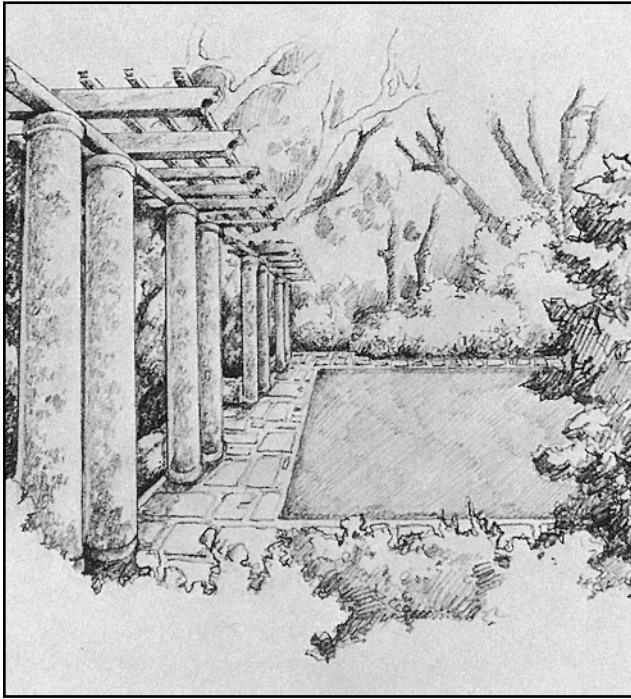


Figure 1.7. Perspective of the trellis structure. This drawing of the end of the pool area shows the construction intent for the trellis. Mounting locations for fixtures can be identified with a drawing like this. *Landscape Design and Drawing: Magrane Latker Landscape Design.*



Figure 1.8. "Before" view of a landscape. Visiting the site provides an understanding of the project scale and the relationship between one area and another. It identifies or reinforces an understanding of dominant views within the landscape, from interior spaces out into the landscape, and from adjacent properties into the landscape. *Photograph: Janet Lennox Moyer.*

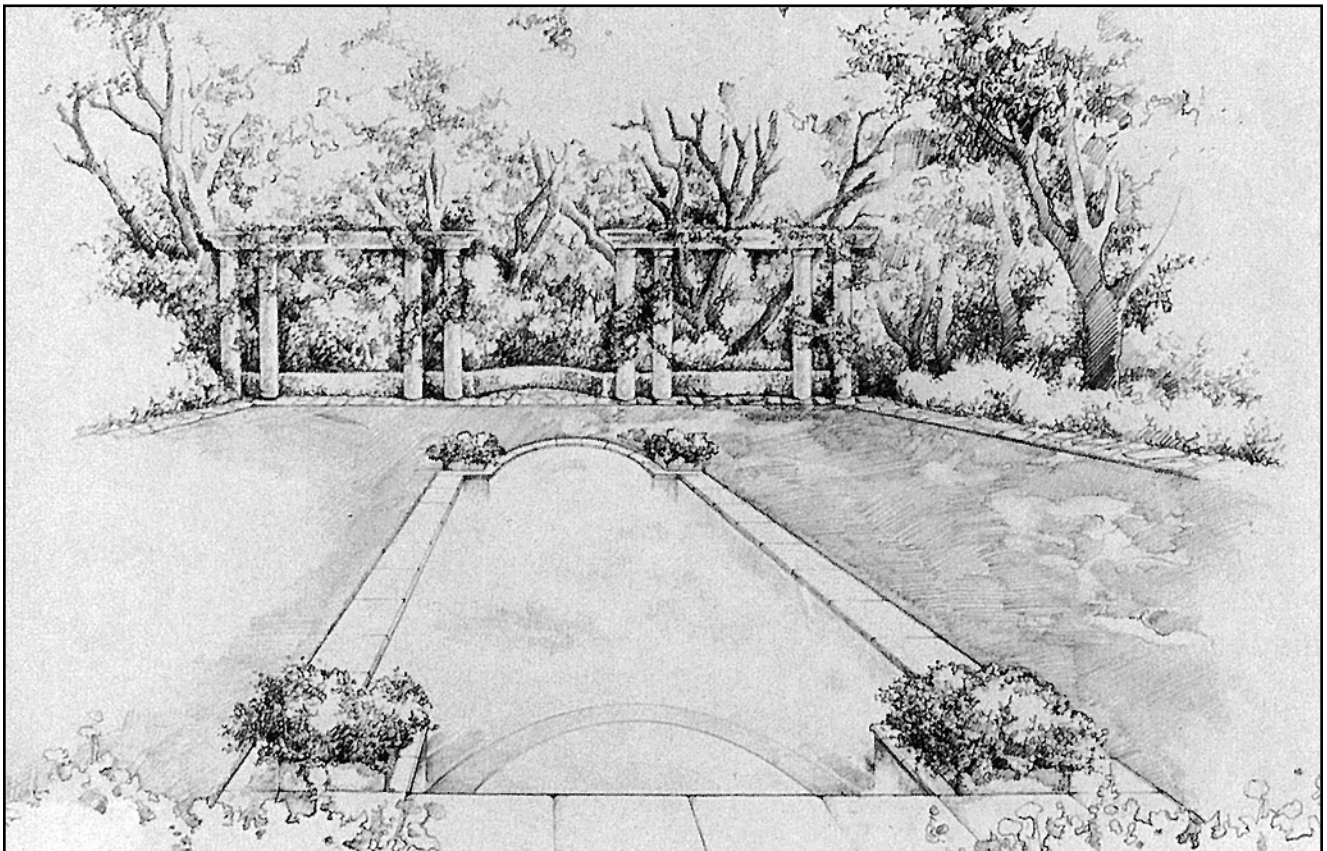


Figure 1.9. Perspective sketch of the pool garden. Three-dimensional views provide information that may not be evident by studying two-dimensional plans. It clarifies relationships between areas and design elements, as well as the overall landscape composition. Note how similar this sketch is to the photograph of the garden after construction (see Figure 1.2). *Landscape Design and Drawing: Magrane Latker Landscape Design.*

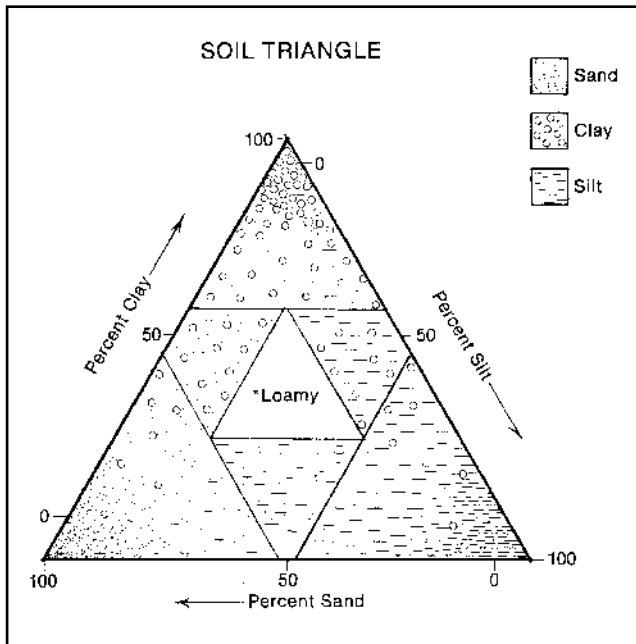


Figure 1.10. Soil structure triangle. Soil classification is based on the amount of three particle types that occur in the soil: clay, silt, and sand. Other factors influence the classification: the number and kind of layers, the kinds and amounts of minerals, the presence or absence of salts, the amount of organic matter, and the drainage characteristics. From Kermit Berger, *Introductory Soils* (New York: Macmillan, 1968). Drawing: Lezlie Johannessenn.

to mount fixtures. Clay soils do not drain well, potentially discouraging ground-recessed equipment or light fixtures. Sandy soils may not support electrical equipment or light fixtures properly, requiring special mounting details. The inherent moisture content of a soil layer or the added content due to irrigation affects potential fixture corrosion. This in turn affects the selection of fixtures based on construction materials, methods, and finishes.

The arrangement of soil layers provides important information. Movement can occur at the juncture of two soil layers. This movement can nick the fixture surface allowing moisture or dirt to contact the metal. This may cause pitting on the fixture surface. Movement also causes soil instability, which may affect fixture selection or installation methods. (See Chapter 8 for more information on the corrosion potential of fixtures.)

Evaluate the soil on the project. Soils are graded based on three types of materials: clay, silt, and sand (see Figures 1.10 & 1.11).^{2,3} The percentage of each determines the makeup of that particular soil. Soil makeup will affect the ease of installation for wiring, lighting poles, junction boxes, and stake-mounted and recessed fixtures.

Soils are identified by different types of characteristics and existing conditions:⁴

- Amount of clay, silt, and sand (see Figure 1.10)
- Types and quantities of minerals

- Presence or absence of salts
- Amount of organic material
- Drainage characteristics
- Inherent moisture content
- Number and types of layers (see Figure 1.11)

A site survey may have been done on a large project by a soils engineer. The report may not be readily interpreted by a lighting designer, but a discussion with the soils engineer will explain the soil conditions. Sometimes the landscape architect may be familiar with the soil condition and can provide this information. Soils survey maps are available from the Department of Agriculture (USDA) or local Soils Conservation Services. These have limited use, as they cover large areas and do not offer detailed information. They do provide clues about the overall site soil type. Be aware that the soil makeup may vary throughout a site.

Perhaps the most useful information for the lighting designer can be gained by digging holes and checking the conditions at several areas in the site. A handheld auger or sampling tube shows the soil consistency and texture. This does not provide information about the chemical makeup of the soil. The landscape architect may have contracted a soils engineer to perform a soils test. If not, contact a soils analysis lab. Ask them to test for soil pH (see Chapter 8) and identify any salts or other corrosive elements in the soil.

SYNTHESIZING THE INFORMATION

After all this initial information has been gathered, allow time to think about it. Study the plans and try to visualize the landscape design. This may be the most critical time of the project. Conscious and subconscious analysis of this information leads to the core direction for the lighting design.

Look again at traffic patterns, views, and vistas, and identify all focal areas or points. Keep in mind the use of the space. One of the most important aspects of this study phase is to become familiar with the plant materials. Refer to the plant list supplied on or with the planting plan. (See Chapter 14 for information on plant material.) Research each plant listed. Recognize that this list will be revised up to the day that all plants are installed in the ground.

Many factors influence these planting changes. The landscape architect may determine at some point in the project that another plant is more appropriate. In procuring the plant material, some of the desired plants may not be available, requiring a change in plant type. In other cases, the plant material may exist, but not be of acceptable quality or the right size. Many times the

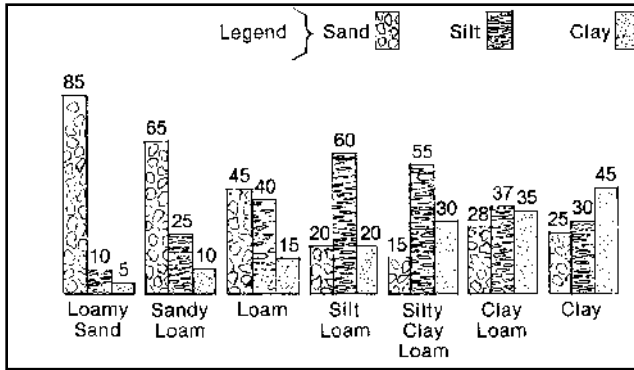


Figure 1.11. Soil classification chart. The height of the bar shows various percentages of sand, silt, and clay materials in the various textural classes of soil. Clay particles are extremely fine and are the active portion of the soil. In addition to these mineral components, soils will have varying amounts of organic material. From Kermit Berger, *Introductory Soils* (New York: Macmillan, 1968). Drawing: Lezlie Johannessenn.

landscape architect, while locating plants on the site, determines that plant locations need to be shifted to create the desired massing effects. Also, the quantity of a specific plant may change due to site relationships. Sometimes more plants are installed, sometimes fewer. This means that the lighting plan needs to stay flexible until all the plant material has been installed.

Other elements of the project can also change. Deck or patio sizes and shapes can change or they may be moved to another location. Structures may be added,

deleted, or moved. Keep in contact with the landscape architects and other designers working on the project. Impress upon them the importance of communicating changes and developments as they occur.

As the lighting designer assimilates this information, the lighting concept starts to formulate. The daytime view can be retained, reinforcing the fundamental landscape design, or changed to sculpt a new view at night (see Figures 1.1 & 1.2). The most complete information regarding the lighting desires of the owner, the physical layout of the site, the juxtaposition of buildings with the landscape, and the landscape design concept provides the best opportunity to develop a successful lighting system.

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4. *Ibid.*, p. 105.