Landscape Design

Learning Objectives

At the end of this unit you will be able to articulate and explain:

- The reasons for designing a landscape well before the first plant is purchased;
- The process of creating a home landscape plan using basic principles of design;
- How to evaluate an existing property and prioritize tasks; and
- How to draw a basic residential plan for personal use.

Introduction

Landscape design is the process of improving your outdoor surroundings by incorporating fine art, applied art, and natural sciences.

Landscape design is prominent in historical references. The Bible refers to Adam and Eve in the Garden of Eden. There were the Hanging Gardens of Babylon. There are parchment drawings of designed landscapes in Egyptian tombs and pyramids. Ancient Greece had residential and public landscapes. There is documentation of many ancient palatial Roman gardens as well as gardens in Pompeii. During the medieval period, gardens were designed within the walls. Water features came into vogue in garden design in the 1500s. Cottage garden design came to Williamsburg, Jamestown, Annapolis, and Mount Vernon from England in the 1700s.

What Is Landscape Design?

Landscape architecture is the art, planning, design, management, preservation, and rehabilitation of the land and includes construction of related features. The scope of the profession includes architectural design, site planning, estate development, environmental restoration, urban planning, parks and recreation planning, regional planning, and historic preservation. Specifically, landscape architecture includes garden design, landscape management, landscape engineering, landscape detailing, landscape assessment, and all the sub-categories of landscape planning.

Landscape design is a subset of landscape architecture. Landscape architecture addresses large-scale projects that can be implemented over time. Landscape design deals with the land on a more personal level. The relationship is analogous to designing for the construction of a home vs. designing and decorating interior spaces.

You can create an outdoor environment for residential use that is functional and efficient as well as visually appealing by using a few basic principles that are the cornerstones of landscape architecture and landscape design.

You can implement your landscape design over a period of time as long as you have an overall game plan. This chapter will help you to sort out the components that go into creating a landscape that meets your needs and is esthetically pleasing and environmentally responsible.

Landscape Design Objectives

What objective or purpose do you want to accomplish in your design? Give yourself a personal questionnaire and conduct an inventory of your property. "Form follows function" will be your guiding principle. Ask yourself these questions to help determine your needs and wants:

- Do you want to create an outdoor setting that extends your living space?
- Do you need to direct visual, pedestrian, and/or vehicular traffic?
- Do you want to create a variety of areas for such activities as casual entertaining, children's sports, and gardening?
- Are there specific plant or architectural features that you wish to showcase?
Site Analysis and Blob Design

Here are some tips on how to perform an analysis of your site before you start digging:

- Take an inventory of the features of your property.
- To get started, make a photocopy of the plat plan for your property. If you don't have a copy, you can get one from your county government offices. (See Fig. 22-A.)
- Draw in all existing hardscapes or structures such as the home, shed, deck, walkways, pool, fence, or retaining wall. A hardscape is a feature in your landscape that is not plant material and is not easily relocated.
- Include the natural compass orientation to establish sun, shade, and wind direction. This will help determine appropriate plant species for each part of your property.
- Locate existing plants and/or planting beds. Also include soil type, if known, and general slope of property. This will help to determine microclimate situations for future plant selection.
- Identify drainage issues related to excessive slopes or high water tables. You want to avoid maintenance nightmares by not locating plants with high water requirements on the top of a hot, dry slope that is far away from a water supply.
- Include the location of utilities and other major features of your property. Call "Miss Utility" to mark utility lines before beginning any major construction project involving digging.
- Place tracing paper on top of a copy of your plat plan, using a pencil, draw basic shapes or blobs to designate the general use you intend for the areas on the property, e.g., patio or deck, vegetable gardens, turf, perennial/shrub borders, water gardens, and foundation plantings. Pencil and tracing paper make changes simple. (See Fig. 22-B.)
**Miss Utility**

Miss Utility can be contacted at (800) 257-7777 (or dial 811) between the hours of 7:00 a.m. to 5:00 p.m., Monday through Friday.

You may also visit their web site at [www.missutility.net](http://www.missutility.net)

A minimum of 48 hours advanced notice, excluding weekends and holidays, is required.

---

**Functional Uses of Space**

Function will determine how you will use the spaces. That is, what functions will you incorporate into your design?

**Activities**

Who will be using the spaces, for what activities, and how much space is needed for each?

- Children—sand box or swing set;
- Pets—just enough room to "take care of business," or for exterior living;
- Gardening—ornamental, food production, natural areas to attract wildlife;
- Sports—putting green, soccer field, or basketball court; and
- Water features—a magic drawing card for wildlife, no matter the size.

Consider how outdoor activities will impact the environment. If you live near a water source, incorporate buffers into your design to prevent nutrient and pesticide run-off.

Design with nature. The existing features of a property might naturally suggest an activity. For example, a low area with a high water table might be the perfect location for a water feature with moisture-loving plant species in the existing surrounding soil. Conversely, the natural features of a property might eliminate certain activities due to functional incompatibility. For example, a steep grass slope can be a mowing nightmare. Consider terracing the slope and selecting plants that have stabilizing root systems to avoid soil erosion.

**Outdoor Entertaining**

- At a minimum, each person needs 25 square feet for passive, small-group activities. Therefore, you need a minimum of 100 square feet for four people and furniture plus additional access space. 140 square feet will accommodate a sitting area for four people and adequate circulation space.
- Slope is defined as the ratio of the change in rise over the change in run. A 30-foot driveway that is 3 feet higher at the top than the base is a 10% slope. Most people won’t notice a 6% slope. An 11% slope should be the limit for a sidewalk or path. A 1½ - 6% slope is best because it will allow for drainage without causing erosion. Runoff of chemicals and soil erosion from improperly managed slopes is a detriment to natural resources.

- Do you need visual screening or a sound barrier to create privacy?

You can achieve this with a vertical or overhead enclosure using a structure or plant material. In other words, the enclosure can be real or implied. A real enclosure would be a physical structure such as a fence or a deck enclosed to create a sunroom or screened porch. An implied enclosure would incorporate the use of plant material to emulate walls and ceilings, using evergreens for the vertical screening of a wall and shade trees for the overhead enclosure of a ceiling.

A large shade tree planted in close proximity to the viewer gives the sense of overhead and vertical enclosure.

A vertical element that blocks your view creates spatial enclosure. A vertical element that is at least at eye level and twice as far away as the height of the viewer creates implied enclosure. (See Figs. 22-C and 22-D.)
Create Visual Interest

Methods to create visual interest

- Walk around the exterior of your home clockwise and counterclockwise, close to the structure and away from the structure.
- Assess the view of your home from the street and from the driveway.
- Then from inside the home, view the landscape through all of the windows.
- Consider the view of guests as they approach your front door.
- If you want guests to appreciate a particular specimen plant, you can direct the pedestrian approach and the visual attention with the use of walkways and plant material.
- Draw the observer through the landscape visually by designing intrigue using curved lines and partially obscured views. People aren’t naturally drawn into a large open space. They need a reason to venture into the yard.
- A large open space is equivalent to a visual barrier. It provides no refuge, no sense of security. A forest invokes more of a sense of security than an open meadow.

Elements of Design

Mass

Mass is volume of space, occupied or empty. It must relate, in size, to surrounding features. Mass can be a structure, plant material, or open area.

- When selecting plant material, you must consider mature size, the space it will occupy, and how it will relate to the surrounding structures or landscape features. A two-story house on flat, unplanted property will look out of place if surrounded by a foundation planting composed exclusively of low-growing plants. However, planting a combination of tall, medium, and low-growing plants will help the house transition into the surrounding landscape. The mass of each component will bring it into scale with the others and the surrounding space.

- There is a formula for determining the appropriate complementary dimensions for plants adjacent to structures, structures in relation to each other, or plants in relation to each other. The "golden rectangle" concept can be used to determine the ideal rectilinear shape. It can also be applied to adjacent spaces. The sides of an ideal rectilinear shape should have a ratio of 1:1.618, or roughly 3:5. That gives the most visually pleasing proportion. Picture frames, area rugs, and index cards are all examples of common items with standard sizes that utilize the golden rectangle concept. This is not an absolute necessity but, rather, a guideline. (See Fig. 22-E.)

Form

Form is a three-dimensional shape in the landscape. There are hard, geometric forms and soft, flowing, natural shapes.

- Forms evoke emotions. Hard geometric forms such as squares, triangles, and rectangles connote strength, rigidity, tension, and stability. Soft, flowing shapes such as circles, ovals, or free-form shapes connote quiet, imperfection, casual, and unbroken emotions.
- Although you may like one type of form over another, too many of any one kind of form is monotonous. Conversely, a random combination of multiple types of forms is confusing to the eye.

- Plants generally can be put into the following categories of form or shape.
  
  Columnar—points skyward, attracts attention, leads the eye upward, and provides an uplifting feeling. Use to punctuate, act as a dominant focal point, and direct the eye.
  
  Pyramidal or conical—less stiff than columnar. A wide base is visually heavy. Formal. Use sparingly, as accents. A row of pyramidal plants is very formal and stiff.
  
  Round—sphere or rounded on top. The majority of plants are in this category. Neutral in the landscape. Good filler.
  
  Spreading or horizontal—low spreader or branching structure. Carries the eye along and creates the illusion of width without being too dense. Good balance for columnar or pyramidal plants.
  
  Vase-shaped—graceful. Good tree in that it provides space underneath for additional plantings. Helps to bring large structures into scale with the surrounding space.
  
  Weeping—fluid feel, pulls the eye downward. Graceful silhouette. Place near low or horizontal plants, but not vase-shaped plants.
  
  Irregular—informal shape, rugged look. Makes good specimens, especially if backlit.

Lines are one dimensional—length only. The line is a dynamic design element that makes visual and physical movement through the landscape. You can have formal, straight, and rigid lines or informal, curved, and relaxed lines.

Lines direct the eye and define an edge. Lines can also evoke emotions. They can define the style that you want to create in your landscape. A combination of both straight and curved lines is typical and pleasing to the eye. (See Figs. 22-F and 22-G.)

Texture can be fine or coarse, visual or tangible.

- Fine texture—small leaves, compound or deeply cut leaf margins. Creates an airy quality that appears to recede from view and make the area appear restful or calm.

- Coarse texture—large, solid leaves that seem heavy. Makes the plant seem to jump forward, grabs attention, and is a good focal point. Can make small spaces seem overwhelmed.

- Visual texture - how the light plays on plants or structures and the visual impression it makes. Leaf size, the outline of a plant, or growth habit can visually suggest texture.

- Tangible texture - the physical sense of touch as you go through the landscape.

- A balanced combination of textures might include hardscapes and planting areas. Imagine a curved pebble driveway bordered with low-growing ornamental grasses leading up to a house framed by oaks with an understory of dogwoods and shade-loving ground covers. A flagstone path leads from the parking area to the front door, directing the eye through the landscape to specimen planting areas.
Color also contributes to the emotional feeling of your design.

- Warm colors, like red, orange, and yellow, will appear closer and larger and will make the planted area appear to advance toward the viewer. However, overuse of warm colors will make your yard appear smaller and more enclosed.
- Cool colors, like blue, green, and violet, will appear more distant and will make the planted area recede, giving the appearance of a larger space.
- Complementary colors, like red-green, blue-orange, and yellow-violet, are opposite on the color wheel and create a dramatic, showy effect. You can use them quite effectively on a large scale.
- Analogous color schemes, like red-violet-blue, blue-green-yellow and yellow-orange-red, make use of neighbors on the color wheel and create the feeling of harmony and restfulness.
- Monochromatic color schemes, including various tints and hues, can make a dramatic statement. However, they are best used on a small scale to avoid being monotonous.
- Polychromatic schemes create a bright, cheery, festive atmosphere. However, be aware that they can also make your landscape appear random, scattered, and disorganized.

Design for Energy Conservation

- Plant shade trees on the south or southwestern exposure to shade your house in the heat of summer but to allow light to heat your house in the winter.
- Plant shade trees to shade your air conditioner in the midday summer heat.
- Plant evergreen trees and shrubs to deflect the prevailing winds in the winter, usually from the north.
- Direct wind movement with strategically placed plantings.

Refine Your Blob Design

- Tighten up specific areas of planting beds, entertainment areas, and activity areas, and further determine how they will connect with each other.
- Remember to allow for circulation for everyday and formal entry, utility access, etc.
- Remember to maintain access to rear of property for future projects or maintenance.

Principles of Composition

- Scale—relative size. It is more visually pleasing when plantings are in scale with their surroundings. (See Fig. 22-H.)
- Balance—visual weight. This concept is similar to furniture arrangements inside the home. Balance the sizes, colors, and textures of the evergreen, deciduous, annual, and perennial plants throughout your landscaping. (See Fig. 22-I.)
- Rhythm—repetition of elements. Although balance and variety are good, too many different elements appear confusing. The best approach is to repeat the same element in your design as a backdrop to create unity.
- Emphasis—unique character. Once you have established rhythm, punctuate it with a completely different plant to draw attention to the unique character of that plant. Examples of unique characters are exfoliating bark, weeping growth habit, striking floral or fruit display, or multiple trunks.
- Simplicity—less is more. Visualize a solitary weeping willow at the edge of a pond. Its gently flowing branches swaying in the breeze conjure a peaceful image. As in all art forms, this can be a matter of personal preference. If your passion is displaying your plant collections, consider a design that has complementary species together for the best transition.
- Further define your design with more detail. (See Fig. 22-J.)
- Use pen and heavier weight paper to draw in features. Use colored markers to help visualize design.
Plant Selection

- Right plant, right place—many maintenance issues can be reduced or avoided by choosing plants that are appropriate for the location. Make sure the plants' requirements coincide with the site's characteristics—available sunlight, planting zone, soil conditions, and available space. Select plants that are disease and pest resistant. Plants that are appropriate for the site require a lot less on-going maintenance.

- Whenever possible, select plants that are native to your planting region. Avoid planting non-native invasive plant species. (See Chapter 12 to learn about invasive species, Chapter 15 for herbaceous perennials and, Chapter 16 for lists of recommended woody ornamentals.)

- Trees are the backbone of your landscape design. Shrubs are the second most important plant element in your landscape. Whether evergreen or deciduous, these plants set the stage for all of the other plants in your design.

- Selections of annuals and perennials for your landscape will change over time as your trees and shrubs grow and provide shade. The primary initial focus should be on tree and shrub selection, as they take the longest time to develop.

- Your plan is a combination of existing inventory and the design for change over time. You inherited plants installed by the builder or previous owners that may be invasive, spaced too closely, or unsuitable to their location. Consider replacing these over time with native plants that strengthen your landscape's ecology, e.g., plant red maple or black gum in place of Norway maple.
Now it's time to finalize your design (Fig. 22-K). Your blobs should be morphing into well-defined “hardlines” on your paper representing structures, planting beds, and open areas.

- Think practical! Design for easy access to frequently used areas such as trash or recycling.
- Add plants—draw plants, to scale, at mature size in your plan. Make a separate plant list and include quantity (Table 22-A).

For key to plantings see table 22-A.

<table>
<thead>
<tr>
<th>Symbol</th>
<th># of plants</th>
<th>Name of plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td><em>Salix babylonica</em> (Weeping willow)</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td><em>C. sempervirens</em> 'Satin' (Satin Japanese holly)</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td><em>Diospyros virginiana</em> (Common persimmon)</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
<td><em>Quercus rubra</em> (Red oak)</td>
</tr>
<tr>
<td>E</td>
<td>1</td>
<td><em>Cornus florida</em> (Flowering dogwood)</td>
</tr>
<tr>
<td>F</td>
<td>1</td>
<td><em>Acer palmatum var. atropurpureum</em> 'Bloodgood' (Bloodgood Japanese maple)</td>
</tr>
<tr>
<td>G</td>
<td>1</td>
<td><em>Viburnum carlesii</em> (Korean spice viburnum)</td>
</tr>
<tr>
<td>H</td>
<td>1</td>
<td><em>Acer platanoides</em> (Norway maple)</td>
</tr>
<tr>
<td>I</td>
<td>1</td>
<td><em>Syringa japonica</em> (Japanese snowbell)</td>
</tr>
<tr>
<td>J</td>
<td>2</td>
<td><em>Ilex x meserveae</em> 'Blue Prince' (Blue Prince blue holly)</td>
</tr>
<tr>
<td>K</td>
<td>1</td>
<td><em>Ilex x meserveae</em> 'Blue Princess' (Blue Princess blue holly)</td>
</tr>
<tr>
<td>L</td>
<td>1</td>
<td><em>Ilex x attenuata</em> 'Foster #3' (Foster holly)</td>
</tr>
<tr>
<td>M</td>
<td>1</td>
<td><em>Ilex x koehneana</em> 'Lapis' (Lapis Koehne holly)</td>
</tr>
</tbody>
</table>

Table continued on next page.

UME © 2008
<table>
<thead>
<tr>
<th>N</th>
<th>1</th>
<th>Betula nigra 'Heritage' (Heritage river birch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>2</td>
<td>Malus floribunda (Japanese flowering crabapple)</td>
</tr>
<tr>
<td>P</td>
<td>9</td>
<td>Nandina domestica (Heavenly bamboo)</td>
</tr>
<tr>
<td>Q</td>
<td>6</td>
<td>Ilex crenata (Japanese holly)</td>
</tr>
<tr>
<td>R</td>
<td>1</td>
<td>Hydrangea quercifolia (Oak leaf hydrangea)</td>
</tr>
<tr>
<td>S</td>
<td>6</td>
<td>Liriopoe muscari (Lily turf)</td>
</tr>
<tr>
<td>T</td>
<td>1</td>
<td>Quercus palustris (Pin oak)</td>
</tr>
<tr>
<td>U</td>
<td>1 flat</td>
<td>Pachysandra procumbens (Allegheny pachysandra)</td>
</tr>
<tr>
<td>V</td>
<td>3</td>
<td>Taxus baccata 'Repandens' (English yew)</td>
</tr>
<tr>
<td>W</td>
<td>12</td>
<td>Hosta spp. (Plantain lily)</td>
</tr>
<tr>
<td>X</td>
<td>1</td>
<td>Hydrangea anomala subsp. petiolaris (Climbing hydrangea)</td>
</tr>
<tr>
<td>Y</td>
<td>9</td>
<td>Hemerocallis spp. (Daylilies)</td>
</tr>
<tr>
<td>Z</td>
<td>6 Iris siberica (Siberian iris)</td>
<td></td>
</tr>
</tbody>
</table>

- Perspective drawings—not necessary but often help visualize the final design plan.
- As much as you would like to have immediate "street appeal," beware of installing hardscapes or plants that will be damaged or have to be removed to access the back yard or to install the pool. Consider planting slow-growing shade tree species first. Divide your plan into smaller projects that can be completed in a reasonable amount of time for you. It is reasonable to take 5 to 10 years to complete a plan for an entire property.
- A well designed and installed landscape design will add value to your property. Taking an active role in the design and installation the plan will add value to your life.

Author and Credits

Author:
Maria Malloy, Certified Professional Horticulturist, Home and Garden Information Center, University of Maryland Extension.

Illustrator:
Don Wittig, University of Maryland Master Gardener, Montgomery County.

References and Resources


