

Chapter 15

LANDSCAPE DESIGN

Landscape design can be defined as the art of organizing and enriching outdoor space through the placement of plants and hardscapes in an agreeable and useful relationship with the natural environment. Today, “**green**” (or sustainable) design blends design with ecology. It uses elements and principles of design, xeriscaping concepts, relates people with the natural environment, and reduces environmental impact. It creates a garden or landscape that a homeowner can enjoy as well as providing monetary and environmental benefits.

Merely planting trees and shrubs is not good landscape design. Designing a landscape is an art and a science. Landscaping means creating a plan designed to make the best use of the available space in the most attractive way. It means shaping the land to make the most of the site’s natural features. It means using hardscape elements such as walls, fences, patios, walkways, retaining walls, swimming pools and in ways to have the least impact on the environment. It means understanding the science of plant requirements, soil and weather. It means knowing how to use art principles and elements of design.

The goal is a plan for the best use of the site, minimum upkeep as well as a pleasant appearance. The budget is also very important. A realistic budget is 10-15% of the value of the home. The return on the cost of landscaping can be as much as 75-100%. Of course, the pleasure of living in an attractive landscape can be far more rewarding. The smaller the house and grounds, the greater the need for correct and complete planning, because every square foot of space and every dollar must produce optimum results.

Landscape design has expanded. It is no longer just plants around the base of a home or building. The concept of the “outdoor room” has been evolving since the 1950’s. The designer sees spaces as rooms. The ceiling is the sky, tall tree branches, the top of a pergola or covering over a patio. The walls are formed with shrubs, perennials and or trees. The floor can be grass, pavers, groundcovers or gravel.

Design a complete plan. There is no need to install all of it at once. However, there should be an overall plan so that when any work is done on the lot, it will be part of the overall theme. Carrying out the landscape plan may take a number of years, for plants need time to grow. Do not allow a spade of earth to be turned until a grading schedule has been prepared from a well-studied plan for house and lot. To do otherwise is to sacrifice such things as valuable trees and soil.

WHAT MAKES A GOOD DESIGN?

A good design coordinates the needs and the desires of the client with the potential of the site, considers guidelines of homeowner association, Chesapeake Bay Limitations and the client's budget.

WHAT IS THE VALUE OF A WELL DESIGNED LANDSCAPE?

Landscape design is for people. It enhances the environment by making a space a more enjoyable place to be. It can be a place for relaxation and or entertainment. It provides air and noise pollution control. It creates shade and reduces wind, providing more comfort for people. It provides screens for privacy.

Landscape design is for energy conservation. Deciduous trees provide summer cooling and winter sunlight. Evergreen shrubs can act as an insulator for cooling and heating.

Landscape design has monetary benefits. Professional landscaping increases property value. "The value of an attractive landscape to a home's perceived value has often been stated at 15 percent." (Virginia Cooperative Extension publication 426-087) It provides curb appeal when selling the property. A well thought-out design saves on utility bills.

Landscape design can help the environment. Proper use of plant material, chemicals and soil preparation can help protect our environment by using less water and chemicals.

THE LANDSCAPE PROFESSIONALS

Who is a landscape architect? Legally to be called a landscape architect one must have a degree in landscape architecture which normally takes five years. To be a licensed landscape architect one must take and pass a landscape exam given by the state. Landscape architects have a background in botany, landscape design, engineering and architecture. They tend to design commercial projects such as shopping centers, schools, businesses and large residential projects. Landscape architects are more qualified to design areas that need grading, such as commercial parking areas working with drainage issues. They can design construction blueprints for such items as gazebos, decks, trellises, etc. Landscape architects therefore typically command a much higher salary than designers.

Who is a landscape designer? A person can become a landscape designer by receiving an associate's or a bachelor's in landscape design. A landscape designer differs from an architect in that they can design a landscape showing where a hardscaping item such a gazebo goes but are not qualified to draw plans to build the gazebo. They also, tend to be more knowledgeable about plants Landscape designers can become certified through the Virginia Society of Landscape Designers. Many municipalities require landscape designs drawn by landscape

architects and certified landscape designers for homes and businesses must meet requirements of the Chesapeake Bay Act (CBA).

Who is a landscape contractor? A landscape contractor installs the landscape. He or she may do all the work himself or may subcontract items such as irrigation, lighting, paving, etc.

THE DESIGN PROCESS

The design process includes the following steps:

1. Analysis of family needs and feasibility of the project.
2. Site Analysis.
3. Definition of areas and design considerations.
4. Drawings: base, bubble-general areas or spaces of the landscape, concept-location of hardscaping, lawn, beds and plant material and final-detail drawing with all elements labeled.
5. Design elements.
6. Principles of design.

ANALYSIS OF FAMILY NEEDS and FEASIBILITY OF THE PROJECT

The fundamental principle of landscape design is it should be based upon a specific plan and this plan should, in turn be based upon:

- The people who use it
- Their cultural needs
- Individual desires
- Budget/Feasibility

The designer must understand how his customer will use the landscape, determine what space and materials are available and how they may be used to accommodate the goals. Make note of the size of the family, ages of the children, hobbies, and favorite outdoor activities. It is also important to understand their interest in gardening and yard maintenance. Will your customer have time and energy to devote to high maintenance items like rose, vegetable or cut flower gardens? Or will he or she prefer a lower maintenance landscape using dwarf and slow growing plants? Does the client have pets?

The first step in landscape design is to divide the site space into use areas: the public area, the service area and the private area. The public area is the section that people passing by view. It is generally in front of the house and should present an attractive public view. It should also match or complement the style of the home.

The living or private area is for the family and may contain a patio, deck, swimming pool, porch, or outdoor kitchen. This area can be broken down into the entertainment area, recreation area, special gardens such as rose or pond garden and general landscape. A play area may be incorporated for families with children.

A storage and /or work area should provide a place for garbage, oil tank, air conditioning unit, garden tools, etc. that is convenient for use but screened from others. Also included in this area may be a cut flower or vegetable garden.

Family Activities: Use of the land should be a determining factor in landscape design. Note the activities of the family. For example, small children need open lawn for playing; gardeners need space for growing flowers or vegetables. Make allowances for future changes. Consider outdoor living and service needs. The family routine follows a general pattern, but varies with each family's way of living.

Family Growth: A successful landscape should be able to age and mature with a family. Don't plan a landscape which will remain static, because it will not function as a family's needs change. A plan for a very young family calls for inexpensive plantings. There should be open areas in which children and pets can play. As the family reaches the middle years, more extensive and expensive plantings can be put in. For example, the children's play area can serve other functions; the sand box can become a lily pool for example. As children grow up, they require less play area and less parental supervision providing both a place and a time for more sophisticated landscaping. With the approach of retirement years, the landscape should become one of low maintenance. Mature trees and shrubs will carry the landscape theme; high labor areas such as flowerbeds can be minimized. Ramps may replace steps.

Budget: A budget needs to be decided. This will be determined by the items desired by the client within the limitations provided by homeowner associations and Chesapeake Bay Act. A good guideline for the budget is 10% to 15% of the value of the home. This shocks most homeowners but you can explain what can go into a landscape: lawn preparation-seed or sod, fence, irrigation system, patio or deck, bed preparation with plants, trees, walkways, driveway, outdoor lighting, swimming pool, tennis court, putting green, children's play equipment, plant containers etc. It doesn't take long to add up. Feasibility is also a part of the budget. Does the land need to be altered by building a retaining wall or bulkhead? Is drainage a problem necessitating a drainage system? These issues will need a bigger budget.

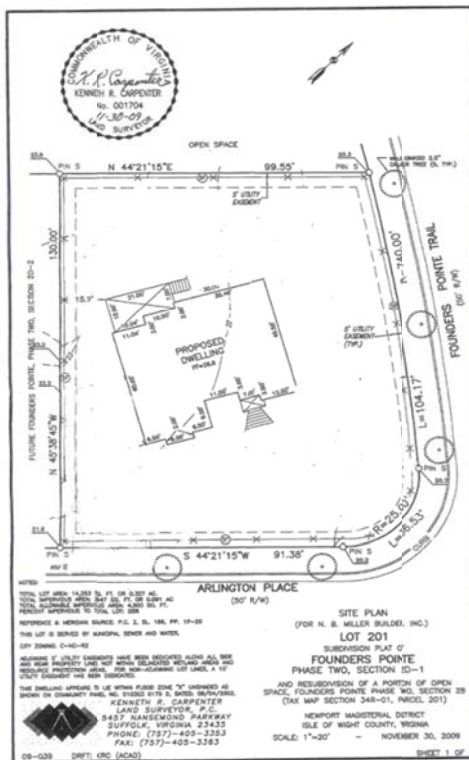
SITE ANALYSIS

Generally you will begin with a site plan or a basic plot plan which includes the property ordination, property lines, easement lines, house, driveway and entrance walk. Take notes on the following items:

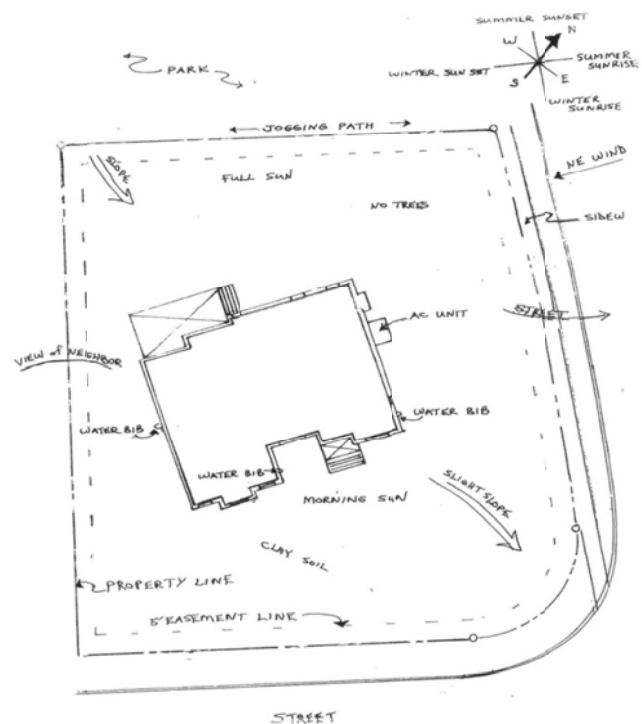
- The climate and soil conditions
- The site, its immediate surroundings, topographic and ecological conditions
- Objects, natural and man-made currently existing on the site or planned for the future

- Orientation of the house or building relative to the sun
- Need for permits because of ordinances or other restrictions/guidelines
- Plant material such as trees and native shrubs and plants
- Noise
- Views
- Color of the house or building – roof, trim, siding and materials used
- Drainage issues, grade (need for drainage system or retaining wall?)
- Location of utilities, septic system, storm water easements and other easements
- Water bibs and electrical outlets

SITE PLAN



SITE PLAN WITH NOTES



Characteristics of the lot: In laying out a design, preserve all the best natural resources on the site such as mature trees, brooks, ponds, rock outcroppings, good soil, turf and interesting variations in the terrain. These natural elements affect the ease of construction and landscape possibilities. A careful survey of the area should be made to determine whether site condition will be a deterrent or can be incorporated into a design plan. Examples of problems are thin, overcrowded trees which should be removed. There might be micro-environmental problems on a site that require consideration. Examples are low places with poor air circulation or a spot with poor soil or water drainage problems.

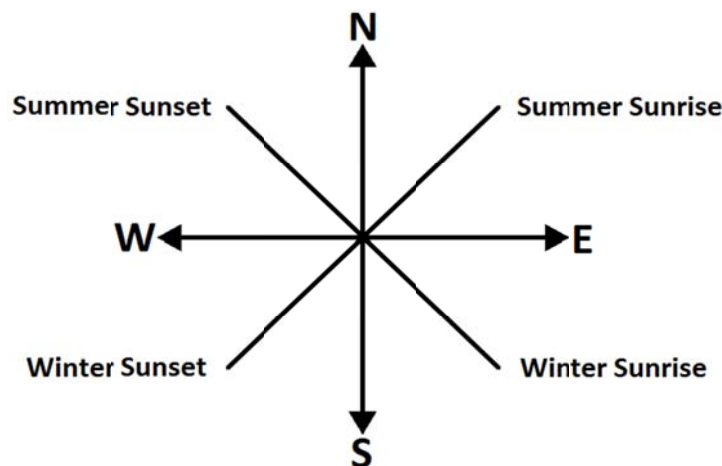
Changes in elevation can add interest and variety to the home landscape. The character of the land, its hills, slopes and trees should determine the basic landscape pattern. A hilly wooded lot lends itself to an informal or natural design, with large areas left in their natural state. In such a setting, large trees can be retained.

Although natural slope variations are an asset, avoid creating too many of them artificially. Excess grading of terraces or retaining walls should be avoided. If these features are necessary to facilitate construction or control water drainage, they should be designed to detract as little as possible from the natural terrain.

Berms can be used to add interest or to help with screening. If you are excavating an area such as a swimming pool, the excavated dirt can be used to create a berm and thus save the cost of hauling it away.

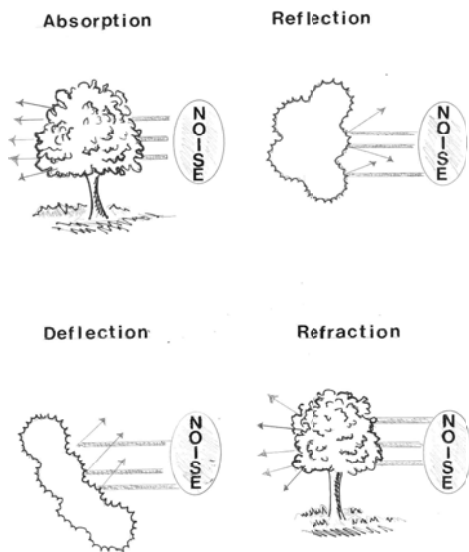
Requirements and rules of the Chesapeake Bay Preservation Act must be taken into consideration when designing landscapes. Designs must be approved by planning departments of localities, who have responsibility for enforcing the CBPA for homes and businesses on or next to water areas in the Chesapeake Bay Watershed.

The principle rooms of a house should benefit from winter sun and summer breeze. This means that the house must be correctly oriented. A plan suited to one lot will not be correct for a lot facing a different direction. Sunlight and shade can be controlled by the location of buildings, fences, and trees. Figure out the possible shade from trees and houses on the neighbors' lots also. Decisions on shade tree placement are important in order to keep sunny areas for the garden, summer shade for the house and terrace. Deciduous trees (those that shed their leaves) shade the house in summer and admit the sun in winter. Place trees off the corners (rather than sides) of the house where they will accent the house but not block views and air circulation from windows bearing in mind the growth habit of the tree. Remember that over-planting trees tends to shut out sun and air.

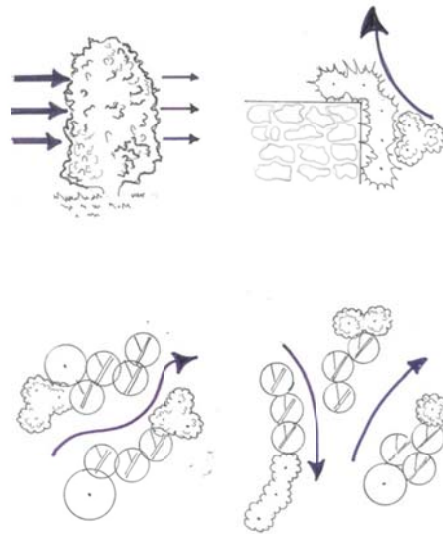


Neighborhood views, wind and noise: Keep good views open and screen out the undesirable views. Often a shrub or two will provide all the screening that is necessary. Provide plantings to act as noise or wind barriers. The principal rooms of the house should look out on the lawn or garden. Design special areas to be viewed from favorite windows.

NOISE CONTROL



WIND CONTROL



Cost-Effective Maintenance: Decide on the maintenance standards. For a person who enjoys putting about the yard though out the year, a landscape design may be elaborate. However, in general, the simpler the design, the less there is to maintain. Choosing the appropriate mature size of the plant ahead of time reduces the need to prune. A low maintenance plan is the goal of most homeowners. This may be achieved in careful attention to the nature of the site. Existing trees, elevations, and the planned use of the area should be prime considerations. Lower maintenance may be achieved by adopting one or more of the following:

- Reduce the lawn area and properly prepare beds.
- Use groundcovers to reduce the need for mulch.
- Use rugged pervious materials (gravel, pavers, etc) for heavily travelled areas.
- Provide strips of pavers or concrete to edge flower beds and shrub borders.
- Use fences or walls instead of clipped formal hedges for screening.
- Design flower and shrub bed for easy access.
- Install an underground irrigation system in areas of low rainfall.
- Reduce flower beds and use flowering trees and shrubs for color.
- Be selective of plant materials, some require less attention than others.
- Use more native plant material that is already adapted to the climate.
- Keep the design simple.
- Use mulches for weed control when possible, but if herbicides become necessary, use caution and follow the directions.

DEFINITION OF AREAS AND DESIGN CONSIDERATIONS

Private or Outdoor Living Area: private living area (or outdoor living room) has become an important part of the American home. No yard is too small to have a private sitting area where family and guests can gather. Where possible, there should be easy access from the house to the outdoor area. The ideal arrangement is to have the living room open onto a porch, terrace or deck, and/or have the kitchen near the outdoor dining area. The outdoor living room can be simple. An open, grassy area enclosed by a wall or shrubs enables the homeowner and guests to sit outdoors in private. A more elaborate outdoor living room can be developed by introducing a series of garden structures. The outdoor room can serve the following functions: outdoor entertaining, family relaxation, outdoor kitchen, gardens such as vegetable, flower, water, etc.

The following are guidelines to consider when planning major areas:

Privacy: The area should be enclosed from public view or nearby neighbors. Properly grouped shrub borders and trees will do this. For a small area, fencing can be used to save space. The private area should be screened from work areas, such as clothes lines, wood piles, garden sheds and unattractive views.

Livable touch: Furniture and garden accessories should be attractive, designed for outdoor use, and appropriate for the size and style of the landscape.

Year-round interest: The outdoor living area should be planned so the selection of plant material is varied and there is interest throughout the year. This is especially true if the area is visible from the house. For winter interest, select shrubs and trees with colorful bark, evergreen foliage, or colorful fruit. The rest of the year use flowers, shrubs, and trees to create interest. Pools, stone steps, paving, walls, bird-feeding stands, and other architectural features will add interest to the garden. Architectural details do not change with the seasons except for interesting snow patterns, and they give interest and meaning to the garden throughout the year.

Climate control: Control of weather in the outdoor room helps to extend the period of usefulness. Shade trees screen the area from the hot sun. Windbreaks cut down some of the wind. An awning or lattice roof can protect against inclement weather or baking in the sun. A garden pool or fountain can convey the effect of coolness during the hot summer season and the sound of a fountain is very soothing.

The terrace, sitting area or deck: The center of activity for the outdoor room is often a space arranged with garden or patio furniture. It may be a porch, deck or terrace next to the house, or the special section of the living area. This latter area might be under the shade of a large tree or in a shady corner. The sitting center may be either paved or in turf. Flagstone, brick, concrete blocks or concrete with redwood dividers are materials commonly used for surfacing the outdoor terrace or patio. The size of the paved patio depends upon its expected use and

the type and amount of furniture desired. A space 10 feet by 10 feet will hold four chairs and is the minimum size for accommodating four people comfortably. Increase the size if space is desired for a larger table. This area may also include a grill or outdoor cooking area.

Play area: The play area can be a part of the outdoor room or separate from it. For very young children a small area enclosed by a fence near the kitchen or living area is desirable. A swing, sand box, or other equipment can be placed here. In yards with a good deal of open lawn space, sports or a portable wading pool. A large tree in the back yard may be ideal for a tree house. A paved driveway or parking area makes an ideal space for playing sports, bicycle riding or roller skating for younger ones. Since ages of children in a family are always changing, it is necessary to make design adjustments to meet changing recreational needs.

Enclosed front yard as a private area: The area in front of the majority of homes has traditionally been left more or less open so the passing public can view the home. Plantings, such as hedges or a screen planting of trees and shrubs along the street have been used to provide privacy. Privacy in the front yard may be desirable when a picture window faces the street or when the front yard is used for outdoor sitting. Providing that the community allows it, a tall attractive fence may provide privacy and be used as an attractive background for shrubs and smaller plants. Front courtyards, are gaining in popularity in the East.

Service, work or production areas: Space often needs to be provided for garbage cans, air conditioner units, generators, tool storage, wood storage, vegetable garden, compost, gutting garden, cold frame, small greenhouse or dog kennel. Service facilities should not be visible from the outdoor living area or from the street. However, an exception might be an attractive greenhouse or tool storage shed designed and constructed so that it blends well into the overall setting, with an interesting composition of plant material around it. Wood or wire fences, brick or masonry walls or plant material alone or in combination are the materials most commonly used to hide or screen service areas.

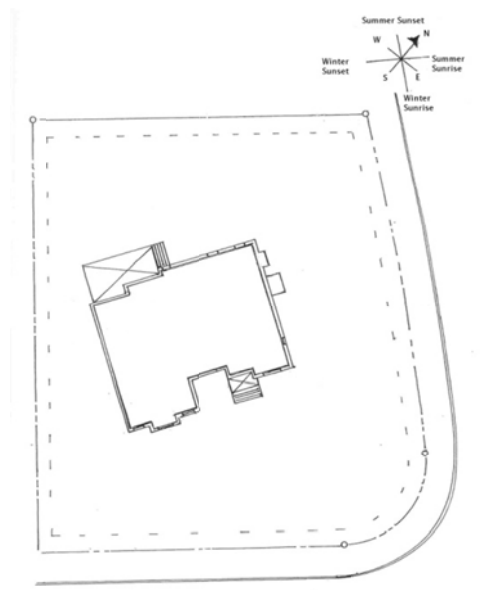
Public area: This is the area, generally in the front facing the street, which the public sees. The landscape style should complement the house. The latest trend in landscape design is to create larger shrub and flower beds and reduce the size of the lawn. The use of groundcovers has increased. By reducing the lawn area there is less need for water and fertilizers thus helping the environment. When selecting shrubs to frame the front door, consider their texture, color, size and shape so they will enhance the total effect of welcoming guests. Use the colors of the house to guide you in color selection. This will create a sense of unity and a more complementary landscape design. Tall trees in the backyard and medium sized ones on the sides and front will help frame the house. The house should be the focal point of the view. A beautifully landscaped home is not only a pleasure to come home to but also gives better curb appeal when the time comes to sell the home.

Driveway: Driveways should be pleasing in appearance, useful and safe. The landscaping of many homes is spoiled by poorly designed and maintained driveways. Some driveways tend to

cut up the yard unnecessarily. Parking areas and turnabouts should be provided when practical. Driveways should be permeable. There is now cement that will let rainwater drain through it. Permeable pavers have also become more popular as a material for driveways and walkways. When designing, keep the environmental impact in mind. Do not plant tall shrubs or trees at the entrance of a driveway as they obstruct the view of the street.

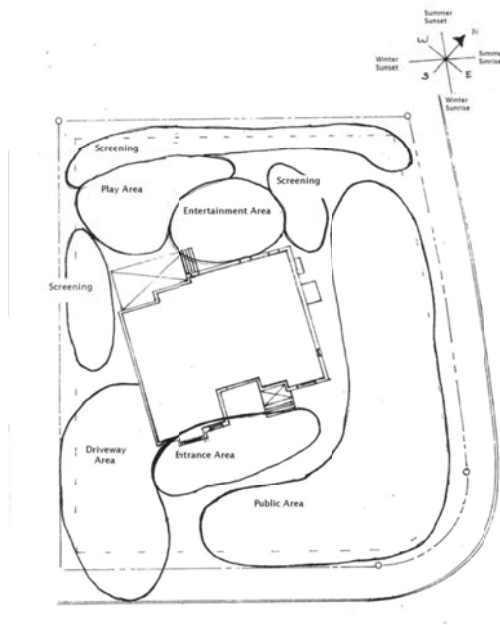
Walkways: In planning the home grounds, give careful consideration to foot traffic patterns so there will be ease of access from one area to another. This traffic may be served by walkways, decks, patios or open stretches of lawn. In areas of heavy use pervious paving materials work best. The design of the walk to the front door will depend on its location and guest parking as well as the topography of the land. If guest parking is on the street, a slightly curved walkway will create interest. Also make the walkway at least 40" wide to accommodate two people walking side by side. When the walk starts at the driveway place it at least five feet from the foundation of the house. This will allow plants plenty of space to grow and allow a variety of heights which is more interesting. Putting a slight curve in the walkway is more pleasing to walk and to view. Sometimes the topography of the land will make it desirable to have the entrance walk start at the edge of the property and curve to the front door to take advantage of a gradual grade. Build walks that are safe. Avoid using materials that are rough or raised, since it is possible to trip over or catch one's heel on such materials. Design steps so they will be safe, especially in wet or icy weather. Make the treads wider and the risers shorter than the treads and risers used indoors. Install handrails where needed or required by code.

BASE DRAWING The drawing starts with a **base plan** which is taken from the site plan. It has the house and property and easement lines, north arrow and title block, downspouts, utilities, existing plant material, different elevations, etc.



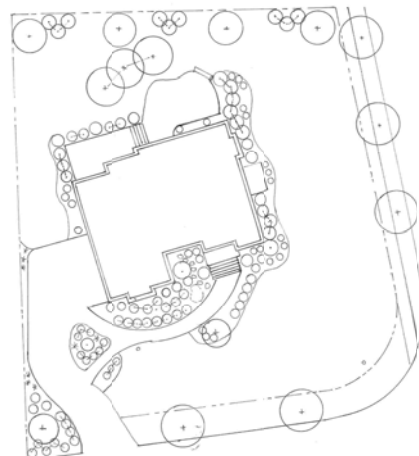
BUBBLE DRAWING

Using tracing paper placed over the base plan bubbles are drawn to denote location of general spaces such as lawn areas, hardscaping spaces, service area, driveway and beds. This is called a **bubble drawing** and serves to block out the basic concept.



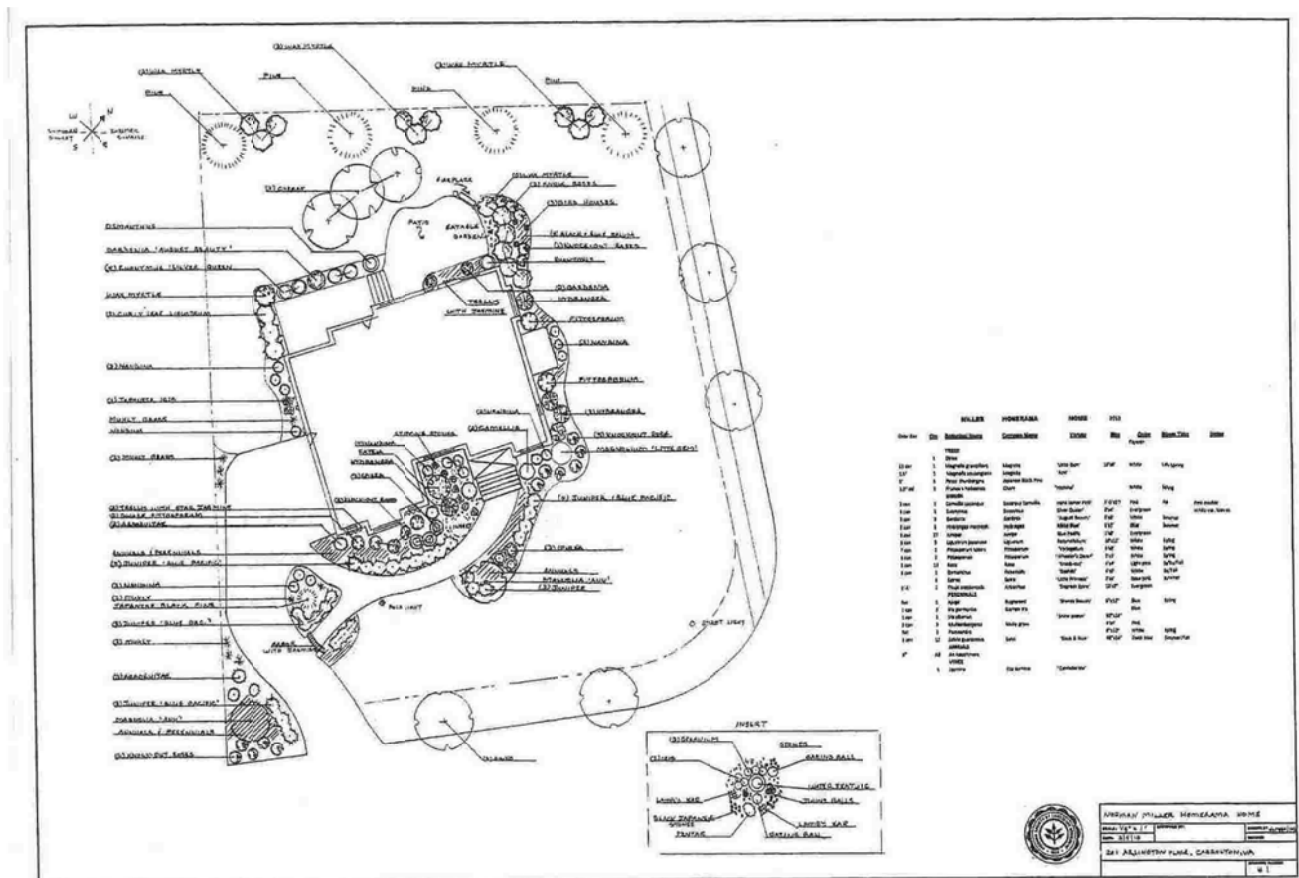
CONCEPT DRAWING

The next drawing is the **concept drawing** which is also done on tracing paper. This drawing is more precise in the location of the areas. It also has the correct size of walkways, driveway, parking area, hardscape dimensions, beds with plants and trees (however, the specific names are not chosen at this time).



FINAL DRAWING

The **final drawing** has all the elements labeled and usually has a plant list with specific plants, sizes and quantities.



ELEMENTS AND PRINCIPLES OF DESIGN

Landscaping, as in all art forms, is based on elements and principles of design. Elements of design include color, line, texture, shape and form. Principles of design are balance, repetition, accent, rhythm, sequence and unity.

ELEMENTS OF DESIGN

Color: Color unifies and creates interest in the landscape. Start with taking note of the colors on the house. Repeat these colors or use complementary colors. Remember there are different shades of green. Color is found in flowers, berries, bark and leaves.

Line: Line creates visual and physical movement. It defines forms and creates edges and shape. Straight lines create formality and curved lines create naturalness. Hesitation is created when lines intersect. Line is vertical, horizontal, diagonal, curved or zigzag. You can create moods with these lines. In landscapes, line is formed with the edge of a bed, path, fencing, and layout of the yard.

Texture: Texture is the visual and tactile surface of an object in the landscape. Plants have fine, medium and coarse texture. Varying textures makes the landscape more interesting. Texture in combination with light and shadow add depth to the design. Highly textured surfaces and plants should be viewed up close. Bold texture provides a good background and is best perceived at a distance.

Shape: Shape is the outline of an object or plant.

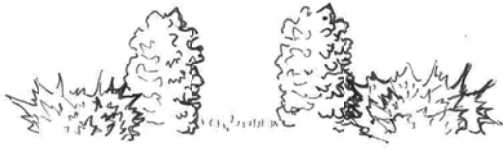
Form: Form is the three dimensional aspect of a plant, object or space. It has height, depth and width. When designing an outdoor space, the form of the space is determined by the placement of plantings, objects such as sculptures, containers, and constructed features.

PRINCIPLES OF DESIGN

Scale: Scales refers to the proportion between two sets of dimensions. Knowing the mature size of a plant is critical when locating it near a building. Plants that grow too large will overwhelm the building. Small plantings around a large building can be similarly inappropriate.

Balance: Balance in landscaping refers to an aesthetically pleasing integration of elements. It is a sense of one part being of equal visual weight or mass to another. There are two types of balance, symmetrical and asymmetrical. Symmetrical is formal balance. It has an axis with everything on one side duplicated or mirrored on the other side. Asymmetrical balance is achieved by using different objects to achieve equilibrium. For example, if there is a very large object on one side of a seesaw, it can be counterbalanced by using many smaller objects on the other side of the see saw. This applies to landscaping when there is a large existing tree or shrub. To achieve visual equilibrium, a grouping or cluster of smaller plants is used to counterbalance the large existing plant. When starting the design from scratch, an asymmetrical design is used with homes that are not formal in structure. Balance can also be achieved with color and texture.

FORMAL BALANCE



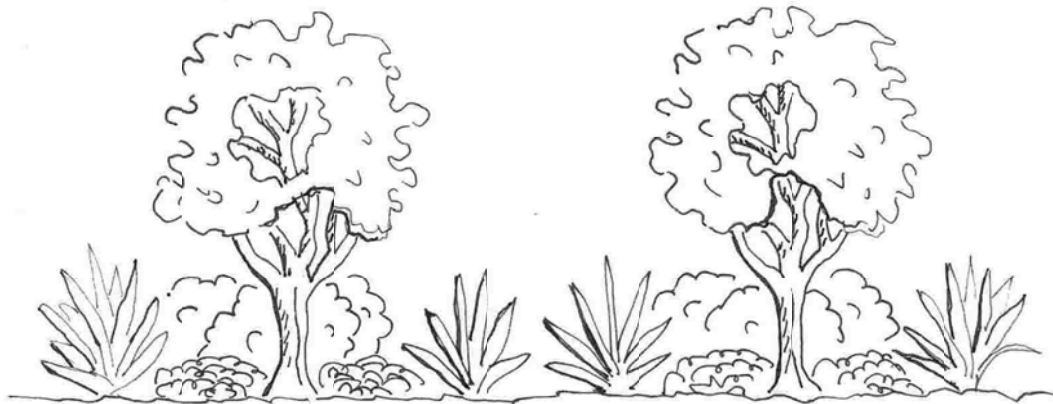
INFORMAL BALANCE



Variety: Different leaf shapes and sizes, different colors, different plant sizes create variety.



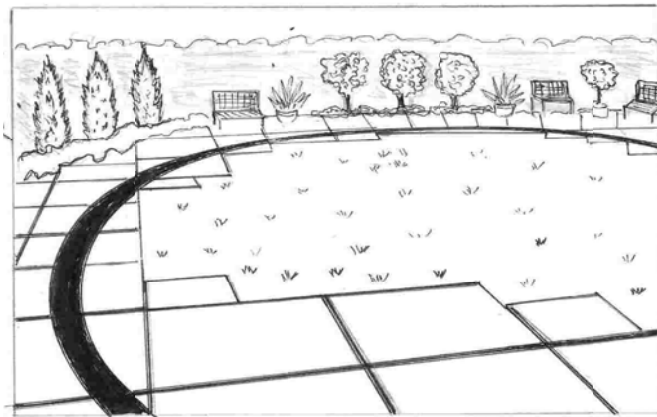
Repetition: Repetition is the reuse of color, texture, line, shape and form. It creates cohesive the look in the landscape. Do not confuse repetition in the landscape with monotony. A row of sheared hedges lined up in front and down the side of a home is not repetition; it is monotony. Repetition is something more subtle, for example, the use of curves in the landscape design. Curves may begin in bed lines in the front yard, continue in the side yard, and be picked up once more in the backyard. Alternately, the repeated use of right angles on a grid design can successfully be used to achieve unity in the landscape. The right angles may begin in the front yard, perhaps on the sidewalk, then be used in the bed lines around the property, and be picked up again in the back yard. By subtly repeating such design elements as bed lines in the yard, one can achieve a continuity or flow to the entire landscape. Repeating color, form and texture creates repetition and helps to create unity.



Accent or Focal Point: Accent, referred to as dominance, focalization or climax, is important in the total picture. Accents, emphasis, point of focus, are all the same principle. It marks the location in the design which most strongly draws the viewer's attention. Without accent, a design may be dull, static, or uninteresting. Various design elements, if skillfully organized, will lead the eye towards the focal point. This may be a garden accessory, a plant specimen, a plant composition, or water in some form. Accent or emphasis may also be obtained through use of texture, color, or form, or by highlighting portions of a plant composition with garden lights.



Rhythm: Rhythm is the repetition of elements which directs the eye through the design. Rhythm results only when the elements appear in regular measures and in a definite direction. It is the movement through space. The presence of rhythm creates order and predictability in the landscape.



Sequence: Sequence is going from large to small, fine texture to bold texture, light to dark.



Unity: Unity summarizes all the principles and elements of design. When they all work together you have unity.



XERISCAPE CONCEPTS

When designing, it is important to use concepts of xeriscape. This was established in the southwest in the seventies as a means to conserve water. The concepts are: limit turf area, group plants with similar water, soil and light requirements, use water wisely, install plants suitable to your area and use native plants when possible, and improve soil if necessary. One more concept can also be added to this, recycle. The goal is to create a design that is environmentally friendly. **Green Design (Sustainable)= Good Design + Xeriscaping Concepts + Earth Friendly Materials.**

Limit turf area: There once was a time when houses were landscaped with large expansive lawns. The philosophy of having large lawns has changed for environmental reasons. Lawns need to be fertilized and the fertilizer often ends up in our waterways. This harms the streams, rivers and the Chesapeake Bay by putting excessive nitrogen into the water. Lawns are high maintenance, requiring consistent mowing and mowing creates noise pollution. Having a smaller lawn area saves money by reducing the need to purchase fertilizer and seed for over seeding. It saves money because it needs less water. Replace lawn with pervious patios and terraces, add more shrub and flower beds, use more groundcovers, and leave natural areas natural.

Group plants with similar water, soil and light requirements: This just means install drought tolerant plants together. Locate them in beds at the edge of the property away from the house. Place plants with the most water needs in foundation beds. Choose the appropriate plants for sandy soil and for clay soil. Sun loving plants should be together in the sun and shady plants need to be in the shade.

Use water wisely: Create a design that keeps rain water and irrigation water on the property. This can be accomplished with proper drainage, use of rain gardens, using rain barrels,

using an irrigation system correctly (only when absolutely necessary), and using mulch and water retaining products.

Install plants that are suitable to your area: If you are designing a landscape that is close to the ocean choose plants that are salt and wind tolerant. Also take into consideration the soil, it is most likely sandy. If the plan is for a wooded area further in land look at what is growing naturally in that area. If you live in the mountains it is most likely rocky and the winter weather is more severe.

Improve soil if necessary. Water retention is accomplished with good soil and or use of water gels. For better drainage add sand or permatil, being careful to use the right proportions. Compost adds nutrients and helps improve the structure of the soil.

DO AND DON'TS OF LANDSCAPE DESIGNING

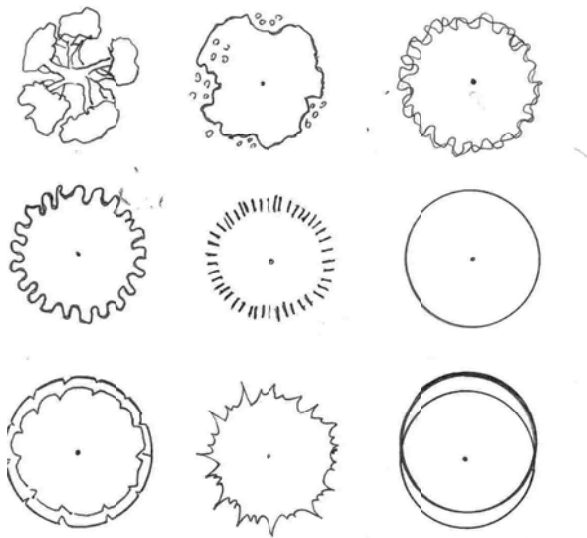
When selecting plants to fill specific needs in your landscape development, it may be helpful to keep the following in mind:

1. Trees should be planted where they provide needed shade. Trees of proper size should be used so that later they will be neither too large nor too small for the house when they are mature. Deciduous trees can usually be planted closer to the home than evergreen trees.
2. Plants should complement the lines and color of the house and relate to the site. Plants and other materials should be compatible with the style of the structure and the neighborhood.
3. Instead of planting all the way around the property lines of your site, place screen plantings where they will provide privacy from traffic, neighborhood activity and block the wind or noise. Use screening materials only where necessary.
4. Group like materials for a sense of unity and harmony. Use large groups of one material rather than several small beds of a variety of materials.
5. Walks and driveways in most cases serve only as aids in circulation of people. When drive ways and walks are lined with hedges, border shrubs or other materials, they become too prominent. Use enough material to soften large areas of paving, but allow the lawn grass to meet the pavement in most cases.
6. Utility areas will require only a small amount of the site if properly planned. Clothes lines, compost piles, refuse areas, etc., should not be placed in the center of the yard or where they restrict access.
7. Space shrubs in relation to the building and to each other to allow for natural growth and spread. Check overhang of the roof and plant past it. No shrub should be placed closer than three feet to a building unless it is a groundcover or a plant which uses the wall for support. The future size of plants in height and spread will determine what can

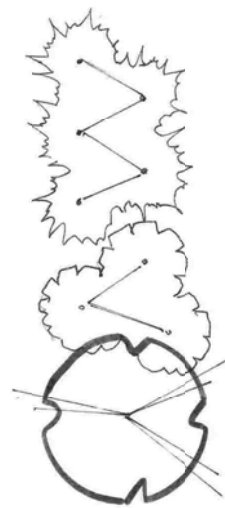
be used in a given situation. Do not be fooled by small plants in the nursery. What they will do in the yard is the important matter. Plants must complement, not cover, a house. A good landscape design complements the home. Proper plant size selection (know the mature size of a plant) means less maintenance.

8. Whenever possible, use native materials. They generally withstand local extremes in weather conditions and may be more resistant to insects and diseases. Also, native plants can be an important factor in relating a structure to a site.
9. Use the xeriscape principle of planting in zones: *oasis area* is next to the house. Plants needing the most water should be planted here. *Transitional zone* is the area next to the oasis area and has plants that need less water. *Desert zone* is the area most distant from the house. The plants in this area exist on rain water only after established.
10. Know the Chesapeake Bay Act requirements as they affect all waterways in Virginia.

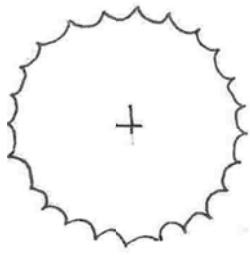
In preparing the plan, use landscape symbols to indicate flowers, shrubs, trees.



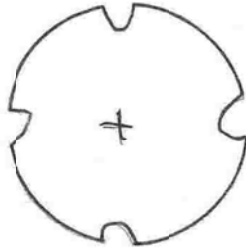
Shrub symbols



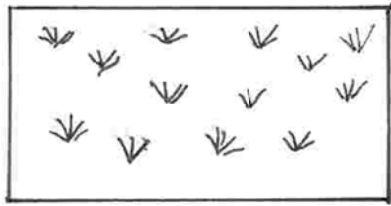
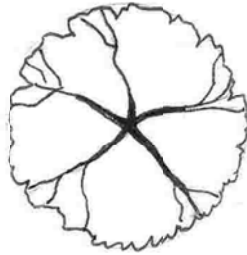
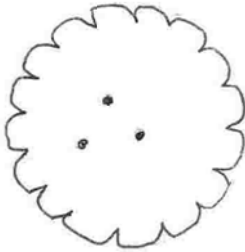
Shrub groupings with tree



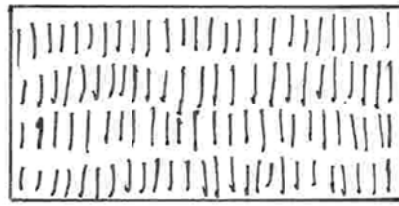
Evergreen tree symbol



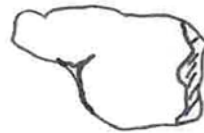
Deciduous tree symbol



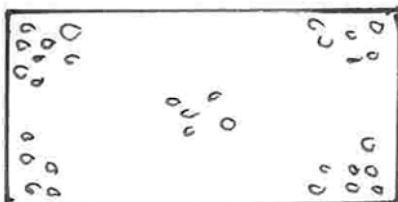
Turf symbols



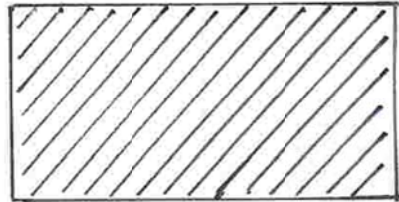
Fence symbol



Boulder symbol



Cement symbol



Erosion or groundcover symbol

SELECTION OF PLANT MATERIALS

Well-chosen plantings are necessary to achieve desired landscape effect. There are hundreds of varieties of trees, shrubs, vines, and perennials from which to choose. Remember, plants are not merely ornamental accessories. They make up masses and define space in the yard, and consequently the silhouettes which produce the garden design. Therefore, when selecting plants, you should consider both their cultural needs and aesthetic value.

CULTURAL CONSIDERATION IN SELECTING PLANTS

Hardiness: This is the plant's ability to withstand winter and summer climatic changes; also, its longevity or permanence. Usually a fast-growing plant has a short life span and will consequently need replacing after a few years.

Soil and moisture conditions: These are important parts of the plant's environment. Some respond unfavorably when a change occurs in their environment: for example, some plants can tolerate extreme dry or wet conditions while others cannot. The soil's pH is also an important factor.

Degrees of sun or shade: This determines on where the plant is to be located in the garden. Some plants just cannot take the sun, while others require full sun for best growth.

Maintenance: When selecting plant materials, consider the more practical aspect of maintenance. Try to choose trees and shrubs that tend to be disease and insect resistant. Don't forget to consider the mature size of the plant. For, example, if you want a hedge to be four feet tall, use a plant whose mature height is four feet, then it won't have to be pruned. Use sizes that are appropriate to the space when you are planting trees. If you want to use a crape myrtle but the space is small use a dwarf variety.

Aesthetic value: This includes texture, color, foliage, flower, fruit, and bark. Select colors related to the house exterior, especially if the plant is used close to the house. Strongly contrasting textures can create interesting effects.

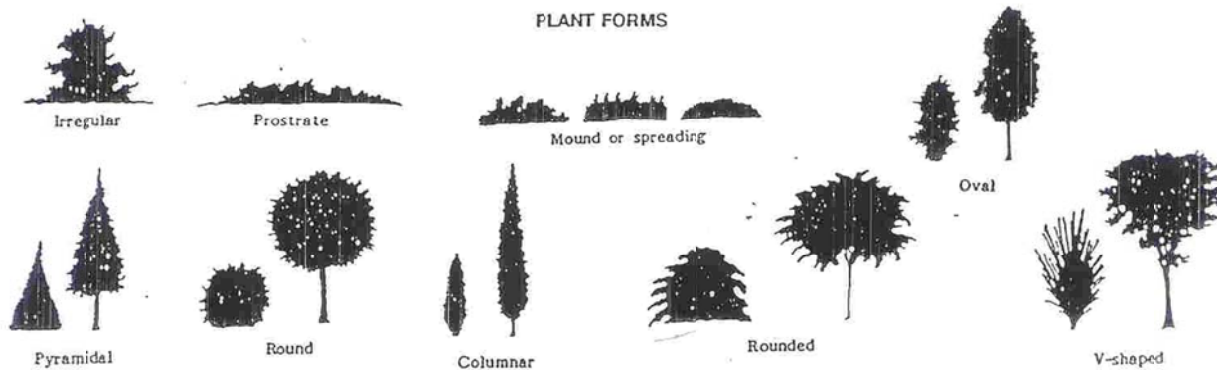
AESTHETIC CONSIDERATIONS IN SELECTING PLANTS

Plant Size: The size which a plant attains at maturity must be considered when selections are made for the landscape plan. A common mistake is the selection of plants which soon become too large for their location. The drastic pruning which then becomes necessary adds to the cost of maintenance and may reduce the grace and beauty of the specimen. Overgrown plants which are left unpruned will alter the balance and accent of the design, and may hide the house which they are supposed to complement.

The landscape picture is constantly changing because the plants which give it form and substance are continually growing. This fact presents a challenge to the landscape architect or designer which is not found in most other artistic media. Great care must be exercised in selecting plants which will immediately create the desired composition, and yet retain an appropriate size over a long period of years.

Plant Form: Trees and shrubs used in landscaping develop many distinctive forms. The more common forms are:

- Prostrate or spreading: an example would be horizontal growing juniper
- Round or oval: a large majority of shrubs fall into this general form
- Vase: an example would be Vanhoutte Spirea
- Pyramidal: an example would be the Arborvitae species
- Columnar: an example would be upright growing juniper species



The form of mature shrubs and trees is usually more open and spreading than that of young plants. For example, the head of a young oak tree may be pyramidal in shape during middle age. The head is an irregular oval and during old age. And a large, massive oak may have a spreading vase form.

Ground covers such as turf, low-spreading shrubs, creeping plants and prostrate vines are essential materials in landscaping. The principal use of turf is for the lawn area. Other ground cover plants are commonly used on banks which are too rough or steep to mow, under trees where grass will not grow satisfactorily.

Shrubs are woody plants with one to several stems with foliage extending to the ground. They vary in size from short (1'-2'), medium (3'-5'), or tall (6' to 15'). Trees are wood plants that typically grow more than 15 feet tall and commonly have only one main stem or trunk. The head or leafy portion of the tree develops a typical form such as the following examples.

- Round or Oval: most common trees are Maple, Oak, Pine
- Vase: Elm
- Pendulous or Weeping: Willow, Cherry and Jasmine
- Pyramidal: Spruce, Fir and Hemlock
- Columnar: Lombardy Poplar

Trees are long lived and relatively inexpensive in initial cost and maintenance compared to lawns, flower beds, and many other features of design. In the past many builders have committed costly errors by destroying trees in establishing new residential subdivisions. Most real estate developers now appreciate the value of trees and attempt to save them when land is graded prior to the construction of houses. Also, the Chesapeake Bay Preservation Act has very strict guidelines on the removal of trees and shrubs near water. When preparing a landscape plan for a house or business on or near water be sure and check the CBPA requirements. Regardless of our affection for trees, we must recognize that they do not live forever. Old and improperly located trees should be removed and new more suitable specimens should be planted.

Plant Texture: The texture of plant materials is dependent on the size and disposition of the foliage. Plants with large leaves which are widely spaced have coarse texture. A plant with small, closely spaced leaves has fine texture. Extremes in texture which prevent harmony in the composition should be avoided. On the other hand, some variation in texture is needed to give variety. Texture can be influenced on a seasonal basis, depending on whether the plant is deciduous or evergreen.

A SUCCESSFUL LANDSCAPE DESIGN = Good Design + Xeriscaping Concepts + Smart Plant Choices + Earth Friendly Materials

To create a successful landscape design we need to understand our client's needs and requirements, know the elements and principles of design, apply xeriscaping concepts, make smart plant choices and use earth friendly materials. When designing we need to meet the needs of the present without compromising the needs of future generations. We must look at the design as a way of preserving, enhancing and restoring the ecosystem.

Review of Chapter

- I. What Is Landscape Design?
 - A. Plan (What makes a good design)
 - B. Sustainable or Green Design
 - 1. Blends ecology with design
 - 2. Uses elements and principles of design
 - 3. Uses xeriscape principles
 - 4. Relates people with natural environment
 - 5. Minimizes environmental impact
 - 6. Monetary and environmental benefits
 - C. Value of Well Designed Landscape
 - 1. Landscaping is for people
 - 2. Landscaping is for energy conservation
 - 3. Landscaping is for monetary benefits
 - 4. Landscaping is for animals, birds and insects
 - D. The Landscape Professionals
- II. Design Process
 - A. Desire and Needs
 - B. Feasibility of the plan
 - C. Site Analysis
 - D. Definition of areas and design considerations
 - E. Base Drawing
 - F. Bubble Drawing
 - G. Concept Drawing
 - 1. Definition of areas
 - 2. Design considerations
 - H. Final Drawing
- III. Elements and Principles of Designs
 - A. Elements of Design
 - 1. Color: plants and hardscape
 - 2. Line: layout of the projects and elements in the landscape
 - 3. Texture: plants and hardscape
 - 4. Shape: trees, shrubs, flowers, hardscape and garden ornaments
 - 5. Form: three dimensional aspect of landscape components
 - 6. Repetition: repeating color, lines, textures, forms
 - 7. Rhythm: directs the eye through the design
 - 8. Unity: all elements fitting together
 - B. Principles of Design
 - 1. Scale: graduated series of element
 - 2. Sequence: order of succession, connected series
 - 3. Variety: different colors, shapes, sizes, texture
 - 4. Balance: symmetrical (formal) or asymmetrical (informal)

5. Accent or emphasis: main focus
6. Repetition
7. Rhythm
8. Unity: all elements fit together

IV. Xeriscape Concepts

- A. Limit turf area
 1. Pervious patios
 2. Add more shrub and flower beds
 3. Use more groundcovers
 4. Delete lawn
- B. Group plants with similar water, soil and light requirements
- C. Use water wisely
 1. Drainage
 2. Rain garden
 3. Roof top gardens
 4. Rain barrels
 5. Mulch and water retaining products
 6. Irrigation
- D. Install plants suitable to your area
 1. Close to bodies of water, CBA
 2. Wooded areas
 3. New development
- E. Improve soil if necessary
 1. Water retention
 2. Drainage
 3. Use compost

V. Dos and Don'ts of Landscape Designing

VI. Selection of Plant Materials

- A. Cultural Consideration in Selecting Plants
- B. Aesthetic Value

VII. Natural Environment and Minimal Impact

- A. Recycled materials
- B. Use less water
- C. Use less electricity
- D. Use existing trees and shrubs

VIII. A Successful Landscape Design = Good Design + Xeriscaping Concepts + Smart Plant Choices + Earth Friendly Materials

FOR MORE INFORMATION:

<http://www.ext.vt.edu>

<http://www.sustainablesites.org/report/>

<http://www.greenerbuildings.com>

<http://www.native-raingarden.com>

http://www.eartheasy.com/grow_lawn_alternatives.htm

<http://www.sustainablegardeningblog.com>

<http://www.clean-water.uwex.edu/bubs/home.htm#rain>

<http://www.decks.com>

<http://www.deckrite.com>

<http://www.raingardens.org>

http://www.lowimpactdevelopment.org/raingarden_design/

<http://www.finegardening.com/extra>

<http://www.vnla.org>

<http://www.vslld.org>

<http://www.hrnla.org>

LEED: Leadership in Energy and Environmental Design

The American Society of Landscape Architects (ASLA), Lady Bird Johnson Wild Flowers Organization, and the National Botanical Gardens are working on LEED guidelines for sustainable landscape design. <http://www.sustainablesites.org/report>

Landscape Design Chapter 15

Revised 2011

By Diane Roselius

Certified Landscape Designer by VSLD

Certified Horticulturist by VNLA

