

WATER-WISE LANDSCAPING

Water-wise landscaping is landscaping without wasting water. It includes planning a yard for your lifestyle, grouping plants that have similar water requirements together. Watering just to meet plant needs, and using non-water consuming areas, such as decks and patios. By using water wisely, up to 50% of landscape irrigation water can be saved.

Consider a typical quarter acre lot with a 7000 square foot traditionally landscaped yard planted in Kentucky bluegrass and common high water use ornamental trees and shrubs.

The irrigation water requirement for these plants for 5 months, at 18 gallons per square foot (high water use), is 126,000 gallons. Conversion of the landscape to low water use plants with an irrigation requirement of only 3 gallons per sq. ft. results in use of 21,000 gallons of water in 5 months.

For many homeowners it would be preferable to plant one third of the yard with high water-use plants at 18 gallons per sq. ft., one third with moderate water use plants at 10 gallons per sq. ft., one sixth with low water use plants at 3 gallons per sq. ft., and to install one sixth in a hard surface such as a wood deck, or brick patio, and walkway.

This scenario would result in the use of 69,000 gallons of water for the season (saving 57,000 gallons). The water saving would be 45% of the total for the conventional landscape.

Water in Utah is cheap compared to other states. Using a current water rate of \$1.00 per 1,000 gallons of water plus \$1.00 per additional 1,000 gallons, only \$57.00 per season would be saved in the example above. But, as the population and water demands increase, and water supplies decrease, both rates and potential savings will increase.

SOCIAL BENEFITS

The cumulative benefit of saving 57,000 gallons of landscape water per house per year, equates to a greater saving than the immediate monetary reward. It would slow the rate of environmental degradation by decreasing the demand for water and by curtailing the immediate need for additional water impoundments. This would result in the savings of billions of tax dollars for water development projects. It would also protect the natural scenery, fisheries and wildlife habitat.

THE CONSERVATION ALTERNATIVE

Maintaining a lush green landscape in Utah requires considerable time, water, fertilizer, and pesticides. Consider the alternatives:

1. Create a native low water use landscape with shrub beds, small perennial gardens and patios.
2. Compromise and retain small high water use areas, such as turf, and convert the remaining yard to patios, decks, walkways, and low water use plants.
3. Convert small areas of an existing landscape each year to lower water consuming plants.

The costs of converting to a water conserving landscape are higher than the initial financial savings on water. However, these costs equalize in time, and the day is fast approaching when there will not be enough water or enough affordable water to waste on lush landscapes.

Now is the time to plan and install a water-wise landscape for a new home or to convert a high water use landscape for an existing home.

HOW TO USE THIS GUIDE

This guide will take you through the steps necessary to plan, design and establish a water efficient landscape.

GETTING STARTED

The first section explains how to develop a map of the yard. This includes locating existing buildings and environmental features such as: vegetation, direction of prevailing wind, slopes, direction of drainage, soils, sunny/shaded areas, and unique aspects of the site.

The next step is to find ideas by walking in open spaces with native vegetation to observe plant communities; walking through neighborhoods; and looking at garden and landscape books and magazines.

PLANNING

Planning involves identifying people's preferences and intended uses and goals for the landscape. design and installation. Synthesizing environmental considerations with your program of activities and goals will lead you to a design concept, a theme, for your design. Without planning, landscapes often become a hodgepodge of plants and disorganized spaces that are neither used nor enjoyed. These goals are then combined with the environmental features of the property to create a map. This synthesis map is further refined by applying design principles to create a beautiful, functional landscape.

DESIGNING

Design principles include balance, emphasis, unity/variety and continuity. Two additional design considerations are presented that are important to the success of your landscape: water zoning (grouping plants by water requirements), and climate control (planting to maximize winter solar gain and summer cooling).

PLANT SELECTION

Allowing time for careful plant selection will be important to the success of your landscape. Tables of hardy plants for this region are listed by plant type: trees, shrubs, annuals and perennials, ground covers, and turf. The tables are arranged in water zones reflecting weekly or monthly plant water requirements.

IMPLEMENTING YOUR PLAN

Implementing your plan may involve site grading, creating positive drainage, preparing and amending soil, planning/installing an irrigation system, constructing hard surfaces, planting, mulching, and maintenance.

DRAWING A PLOT PLAN

A plot plan is a map of a house and yard showing the existing buildings, property lines and utilities. If a plot plan of the property exists, you have a head start. If you need to take a plot plan, read this entire section before starting. Property dimension lines should be available from your city engineering department.

Materials Needed to Prepare a Plot Plan

- 100 ft. measuring tape
- Masking or drafting tape
- Clipboard
- Ruler or engineer scale
- Pencil and eraser
- 8-1/2"x 11" graph tracing paper (with 4 or 10 squares per
Inch, giving you a scale of 1"= 40" or 1"= 10")
- Right angle triangle
- T-square
- French curve
- Circle template

Begin by taking a quick walk around the yard and notice the location of the house, other structures, trees, property lines, etc.

Measure the length and width of the property between the property corners. Measure from the property lines to the house corners sighting along the sides of the house.

Next, locate measure and draw other structures, utility lines, driveways, garbage storage areas, existing gardens, existing trees, easements and setbacks. Approximate the location of adjacent houses or anything that would influence your views or solar access.

Consult the city or county planning department about landscaping ordinances. There are setback limitations and height restrictions that apply to landscaping.

If the lot has more than a gentle slope, you will need to determine the grade or change in elevation across the property. This is done by using a carpenter's level, a hand level, a surveyor's level and rod, or by hiring a surveyor.

If you have steep erosive slopes of 50% or more 50 % elevation change in 100 ft, you may save money by hiring a landscape architect to assist you with a plan to stabilize the slopes.

Make a clean bold copy of your plot plan that can be easily read through tracing paper. Orient the lot so north is at the top of the page.

SITE INVENTORY

Inventorying your site is easy and important to the success of the final plan. The objective is to note site assets and constraints for planning.

Trace your plot plan on an 8 ½"x 11" sheet of tracing paper. On the copy, draw the following:

- Existing vegetation
- Arrows showing the direction of prevailing winds
- A symbol indicating noise sources
- Steep slopes
- Drainage direction
- Location of different soils, (refer to soil types below).
- Areas of good/poor views

Sunny areas and areas of dense shade
Wetlands, rock outcrops or other unique aspects of the site

SOILS

It is important to learn about soils before planning a landscape or selecting plants. Soils in northern Utah areas 4 and 5 vary from porous excessively drained sandy soil to heavy poorly drained silty clay loams. The soil acidity varies too, but is usually about pH 7.5-8 (ranging from pH 6 to pH 10). This is alkaline on the pH scale of 1 to 14, where 1 is acidic, 7 is neutral and 14 is alkaline. Fortunately, some plants thrive in these alkaline soils while others must live in acidic soils.

A soil test will provide specific information about your soil which will help you select plants that are tolerant of your soil. Soil testing is easy to do. Simply call for a soil test kit at 797-2217, or write to Soil Testing Lab, Utah State University, and Logan, UT 84322-4820.

The soil test kit comes with instructions. It is important to take soil samples in areas where you may plant and where there are soil texture changes as discussed below. Classify soil into one of three categories: sand, loam or clay.

CHARACTERISTICS

Soil texture and structure effect soil drainage and plant survival. Coarse textured soils with little structure, such as sands, drain and dry out rapidly. Fine soils with developed structure such as clays drain more slowly, thus holding water longer. Alkalis, or sodium salts, destroy soil structure.

If you have clay soil with alkali, your plant selection will be limited because few plants can tolerate the lack of air space, waterlogged soil and high sodium salts. It is advisable to find plants that tolerate these conditions, rather than try to amend such a difficult soil.

Some soils have an impervious hardpan or fragipan layer within good soil. If the layer is thin, it can be broken up to allow roots to extend below. When the layer cannot be broken, or if you have shallow soil less than 3 ft. over rock, either build raised planting beds or grow shallow rooted plants such as perennials, annuals or ground covers.

SITE ANALYSIS

Now put a sheet of tracing paper over the site inventory map. Analyze the site and conceptualize solutions to the limitations shown on your map. Indicate screens to hide poor views and show buffers to cold winds. Consider and note soil limitations and hazards from steep slopes.

Next, evaluate the neighborhood landscape. Is there an element worth repeating such as a street tree planting that unifies the appearance of the neighborhood? Note and plan to emphasize assets of your site such as well drained soils or good views.

Analyze and indicate on the map, the climate control potential for shading the south and west sides of the house during summer to save energy and for comfort.

LANDSCAPE IDEAS

Landscape ideas come from experiences; landscapes we see and enjoy; books about art, landscape and environment; neighbors' yards that we like or dislike; walks in the foothills and mountains; and other sources.

Before planning your yard, look at what others have done. Walk or ride a bike in different neighborhoods looking for new ideas. Many homeowners in the Salt Lake area are converting small areas to more water conserving plants. Use their successful ideas in planning. Walk the foothills and notice which plants are growing together. Think of their use in your landscape.

RELATING IDEAS TO YOUR SITE

Create a landscape that fulfills the needs of your family, and responds to the assets and constraints of the site. Ideas gathered from looking, visiting and reading should be adapted to these needs with sensitivity to your site, to the land and to the growing conditions. Watching your landscape for a year and just maintaining what exists is educational. It allows time to learn about the property, recognize microclimates critical to plant growth, note seasonal changes, identify existing plants, and observe wildlife use of the site.

FOUR IMPORTANT PLANNING CONSIDERATIONS

1. Landscape Use

Consideration must be given to the arrangement of landscape activity areas and the compatibility of adjacent uses. For example, it may be preferable to locate an outdoor eating area near the kitchen door for convenience. A secluded patio may be planned near an exterior bedroom door but it would not be advisable to locate it adjacent to a volleyball court. If street noise and unpleasant views must be contended with, use of aesthetic barriers should be considered to diminish annoyances.

2. Circulation

Circulation routes facilitate use of the landscape. Wide paths or large connecting spaces enable use by many people simultaneously. Narrow winding paths with uneven stone surfaces discourage active use, and help seclude areas. Paths or walkways and other connecting spaces should be shown in the conceptual phase and the final design.

3. Environmental Aspects

Planning to make the best use of site assets and limitations is important. Assets may include views, rock outcroppings, and well drained soils, areas with sunlight or shade, or existing vegetation. Microclimate (a unique climate in a small area) is easily overlooked, but it is important for comfort and plant survival.

Utilizing summer shade and breezes, and the warmth of the winter sun, with protection from cold wind will enhance your enjoyment of the landscape. Site limitations may exclude some landscape uses but facilitate others. Limitations could include: a high water table, an odd shaped lot, poor drainage, high wind exposure, steep slopes,

4. Design

Design is a process of using your imagination to create and refine forms and spaces to achieve aesthetic and activity goals. Inherent in this is the organization of your thoughts about use of space for specific purposes.

Design emphasizes the aesthetic quality of the landscape yet accommodates your program goals in an environmentally sensitive way.

PROGRAM DEVELOPMENT

Program development is used to identify your priorities for the landscape and to establish goals for accomplishment.

Think of your landscape as an extension of your home. Envision one of your rooms extending outside, creating an exterior space. Think of the beauty created by the connection of the interior/exterior expanse as well as the functional possibilities of the connection. Apply this thinking to different rooms of the house and to the activity areas specified for outdoor use.

Consider these options and the aesthetic implications of their location in your yard. Do you enjoy sitting /reading/sunbathing in the yard? Do you need quiet and active areas that can be used simultaneously? How about a hot tub under the stars?

Locate active areas adjacent to other compatible use areas or resolve the issue of how to separate the spaces successfully. Are **active use areas** important such as: basketball, badminton, horseshoes, swings, softball, Frisbee? Should a children's play area be visible to a certain room in the house?

Wildlife areas are often perimeter areas that can be planned to attract wildlife to your property. Adjacent land uses should be chosen and planned carefully so that wildlife are not frightened away, and to avoid feeding damage from wildlife. If attracting birds and other wildlife an objective? Consider: birdbaths, feeders, viewing areas, food/native plants, and protecting the remainder of the landscape from browsing.

Consider the convenience of locating **outdoor entertaining** areas near a kitchen or dining room, plan the size of the area based on the size of the anticipated user group. Think about enclosed areas with trellises and overhead structure versus open areas. Do you have the need for: sitting areas, storage for chairs, barbecue pit/cooker, paths to connect areas, or privacy/public space? Do you want an east facing outdoor breakfast nook, or

an evening shaded deck? Would you enjoy having lunch in a sunny/shaded area of the yard? Is night lighting important in your landscape?

Water features are usually used as a focus element in the landscape. Are water features important such as: fountains, swimming pools, birdbaths, a hose and wash basin for garden vegetables, or a lily pond?

Consider locations for outdoor faucets. If **gardening** is a priority, consider the aesthetic incorporation of a garden into the landscape, as opposed to isolating and screening it. Consider use of the garden and its maintenance. Do you want a vegetable garden and an area for tool storage? Do you want a cutting or formal flower garden? Is a native plants garden of interest? Would you enjoy creating an alpine garden? Will there be a compost pile?

Determine the amount of time you are willing to devote to landscape **maintenance**. Consider storage of necessary tools and landscape equipment. Is low maintenance a priority? Consider using vegetative ground covers, hard surfaces, native plants, low water use plants and mulch. Do you enjoy high maintenance tasks such as frequent mowing, fertilizing, watering, pruning, and weeding? Is snow removal necessary? If so where can snow be piled? without damaging plants?

Develop and prioritize a list of landscape elements for your family and create goals.

SYNTHESIS

In this step a synthesis drawing is developed by combining the drawings you have made to this point: site inventory, site analysis, and conceptual plan. The synthesis drawing illustrates how the conceptual plan fits with the limitations and assets of the site. Adjustments can then be made to the conceptual plan before developing a final design.

Check for incompatible uses such as a garden planned where a healthy tree exists or a sunlit patio marred by the appearance of a storage shed. Tall plants can help screen garages, and natural wood fencing can be used to hide garbage containers. The small details in a landscape often give a finished quality look.

If you are renovating an existing landscape or beginning with bare soil, the landscape can be developed in stages, or all at once, depending on your needs, budget and energy.

Useful references for planning include: Step by Step Landscaping, Western Home Landscaping, Water-wise Gardening, How to Plan Your Own Landscape, Site Planning, and Landscaping.