

Example

Landscape Maintenance Specifications for a Resource Efficient Landscape

Note: This is an example of “green” maintenance specifications. This is meant to be only a guide for specifications between a landscape maintenance contractor and client. Specific details for an actual contract should be worked out based on the site and client needs.

Section One: Introduction

1.01 Project Concepts

Contractor, responsible for the maintenance of the landscape areas, seeks to provide an attractive, colorful and resource efficient landscape for the benefit of the Customer.

The Customer expects a high standard of horticultural service to maintain the landscape. These standards are detailed in the Landscape Maintenance Specifications. To perform the duties listed below requires additional time be spent at a site than may have been required in the past. The extra time performing resource management can and should translate into an additional charge to the property owner for the value-added service of resource management. However overall the Customers costs will be reduced because of the substantial reduction in use of resources.

The bottom line is this: when the principles of resource efficiency are performed, significant water savings will result, less chemicals, power for tools and fertilizer will be used, and less green waste will be generated. All of these added up to a significant monetary savings for the Customer.

Just the water savings alone can be 30-40% of water costs for irrigation. By incorporating resource management in the landscape maintenance contract, the appropriate amount of water will be applied to the site (the controller will be reprogrammed each week), heads and emitters will be adjusted regularly (reducing poor coverage or overspray conditions), and on-going leaks will be discovered and repaired sooner (meter reads will be reconciled with system runtimes). As a result the site will look better, plants will be healthier, and both water use and water costs will be reduced.

The specifications include the use of integrated management program of soil, water irrigation system, fertilization and pest management that optimizes plant health, resource efficiency and, therefore, cost-effectiveness for the site and the Customer.

1.02 Site Map

A site map will be provided and shared between the Customer and Contractor. The map shall reflect general plant palette, plant associations (i.e. hydrozones), streets and addresses. Copies of the map shall be on file with the Customer and Contractor, and will be used to identify locations of work to be performed, locate problems, etc.

1.03 Irrigation Map

A map describing the existing irrigation system including location of meters, valves, controllers, quick couplers and types (brands) of irrigation equipment utilized on the site.

1.04 Site Plant List

A list of all existing plants will be included and on file with the Customer and Contractor. The list is to be used as a reference for plant replacements, to identify plants that may need to be replaced and to help determine potential plants to add to the site when appropriate.

1.05 Emergency Phone Numbers

All phone numbers, including those of the Customer and Contractor, shall be listed, including numbers for 24 hour emergency service.

Section Two: General Requirements

2.01 Protection of Existing Structures and Property

Contractor shall take proper precautions when working on-site to protect any and all association structures, infrastructure and utilities. Any damages to association structures will be reported immediately to the Customer's Representative. Any damages caused by Contractor action shall be corrected and/or paid for by the Contractor at no cost to the Customer.

2.02 Safety

Contractor shall adhere to all state, federal and local requirements related to the safe completion of all work. Contractor safety includes the use of safety gear, traffic control and vehicle safety.

2.03 Customer

The Customer shall have authority to call meetings, with a 24 hour advance notice, for purposes of discussing site issues, performance and needs. Contractor shall provide reports, as designated in the scope of work, to the Customer.

2.04 Maintenance Schedule/Inspection Schedule

Contractor shall provide service to the Customer with time to be negotiated. The hours spent on site to be determined by the scope of work desired by the Customer. The Customer and Contractor shall participate in monthly site review/inspections.

2.05 Contractor Supervision

Contractor shall provide qualified on-site supervision to insure high quality work and provide accurate reports.

2.06 Extra Work

Work determined to be beyond the tasks listed in the scope of work shall be "extra" work.

Extra work will be planned, estimated and proposed to the Customer for authorization before performing the work ("extra" work should be designated and clearly understood at the initiation of the contract.)

2.07 Plant Material Replacement

Plant materials may require replacement for safety, aesthetics or because of damages. All replacement plant materials shall be in keeping with the association plant list, or approved substitutions. Color plants will need periodic or seasonal replacement and renewal.

2.08 Pesticide Regulations

All chemicals shall be used in strict accordance with federal, state, county and local laws and regulations. Any use of chemicals shall be reported to the Customer and applied by trained and licensed pest control operators. It is the intent of the Customer to maintain a healthy, sustainable landscape that will minimize the need for and use of chemical controls. An Integrated Pest Management Program (IPM) and biological controls will be utilized as much as possible for the site (*design an IPM approach for your specific situation).

2.09 Fertilizer Regulations

Contractor shall adhere to the fertilizer programs described in the scope of work. The intent use the minimum amount of fertilizers necessary to produce a healthy and attractive
Contractor shall take soil samples in a variety of hydrozones and locations to determine the

need for soil/plant nutrients before applying fertilizer. The frequency of fertilization is set by results of the soil sampling.

2.10 Weed Control

Contractor is responsible for keeping all areas free of weeds. Contractor is required to keep controlled by (1) the use of organic mulches on the soil surface, (2) manual labor, controls, in that order.

2.11 Soil Analysis

Contractor shall perform a soil fertility test at least twice per year or before major fertilization, as designated in the scope of work. The primary goal is to apply fertilizer only if the soil is without adequate nutrients for plant vigor. The intent is to reduce overall fertilizer application to keep salt build-up potential low, to minimize excessive plant growth that requires more maintenance time, water and fertilization.

2.12 Method of Payment (insert appropriate data)

2.13 Licensing

Contractor shall maintain a valid C-27 license from the State of California. Contractor shall also hold appropriate Pest Control Operators and chemical application licensing/certification or provide services of same as part of this contract.

2.14 Insurance

Contractor shall provide proof of insurance and adhere to the following limits of liability: (Use appropriate numbers as per customer requirements, such as: Worker's Compensation, statutory limits; Automobile Collision, \$1 million; Comprehensive General Liability, \$1 million).

2.15 Notice of Cancellation

The landscape maintenance contract is subject to 30 day written notice of cancellation by either party.

Section Three: Scope of Work

The scope of work contained herein establishes a standard of landscape care for the Customer. The scope is specifically intended to produce an attractive, healthy and cost effective landscape. Contractor shall furnish all labor, equipment, materials, tools and specific skills required to perform the scope of work set forth in the maintenance specifications.

3.01 Soil Management Program

Soils Analysis: Contractor shall provide a soil fertility test at least twice per year, or before major fertilization, (example: March, October) for help to determine proper fertilization needs.

Soil Probe Analysis: The site supervisor and site personnel shall utilize a hand soil probe to physically determine soil moisture levels in various planting zones. The soil probe analysis is to be used (along with water meter readings and irrigation scheduling software) to monitor and adjust site irrigation schedules, to find wet or dry stations as well as to observe plant root depth and development

3.02 Water Management Program

The water management program is intended to maximize plant health, minimize water damages to Customer's hardscape and property, and eliminate any over-water use.

1. Contractor shall consistently maintain all components of the irrigation system in proper working order, as per manufacturers specifications, by inspecting the entire system on an ongoing basis.

2. Drip lines and spray heads shall be randomly checked on an ongoing basis such that the entire system is checked each month. Malfunctioning systems will be corrected immediately. Methods of detection include: visual sightings of water on association hardscape and property, soil probing, meter monitoring and specific line observations

3. Weekly or bimonthly reprogramming of the irrigation controller.

Individual irrigation valve run times should be determined and set each week or every other week based upon ET (evapotranspiration) data. Santa Barbara ET data is available daily from toll-free hotline, 1-888-CIMIS2U. For guidance on using ET and WUCOLS reference ET data to determine water requirements for plant species, contact your local water agency. Average ET data may also be used.

All run times should take into account valve precipitation rates, soil conditions, microclimate conditions, and consideration of slope. Before scheduling run times, the site should be "walked" and planted areas inspected to observe plant stress and health. Soil moisture levels should be inspected throughout planted areas, and appropriate adjustments made to the irrigation schedule.

Irrigation scheduling will be performed to encourage deep roots, including deep watering through use of multiple repeat cycles. Soil probing shall be used to determine soil moisture depth, overall moisture levels and the need to adjust irrigation schedules. Soils will be allowed to dry to a 50% moisture depletion level between irrigations in order to avoid root-rot and allow adequate air to be present in the soil.

4. Monthly activation of all irrigation valves.

Each valve should be operated individually to inspect for and correct the following conditions: mis-aligned irrigation heads, clogged or obstructed heads, missing or vandalized heads, low-head drainage conditions, overspray onto hardscaped areas, poor coverage or uniformity, stuck valves, and broken risers, laterals or mains. Contractor shall list and report all irrigation system damages to the Customer with the cost estimate of repair/replacement.

5. Irrigation system pressure shall be checked and adjusted at least monthly to insure efficient operation of irrigation systems.

6. All irrigation replacement parts shall be as original installation or approved equals.

7. Turf spray heads shall be uniform in output and kept adjusted for accurate throw. If the irrigation is not adequate to provide uniform coverage, the Customer agrees to upgrade the system to achieve site efficiency.

8. Weekly or bimonthly irrigation meter reads.

Weekly or bimonthly reads of a site's irrigation meter (*if site has a separate irrigation meter*) should be recorded to determine irrigation run time demand. This data should be reconciled with run times and flow rates to determine if there is unusual consumption which may indicate stuck valves or other leaks. If the site shares a common indoor & outdoor meter, strong consideration should be given to installing a sub-meter to monitor the irrigation system water use.

9. Develop and maintain a site log.

The site log should contain the following information: weekly water consumption data, soil moisture data, weekly ET data, rainfall data, plant health and vigor, areas of vandalism, and other site information.

10. Irrigation scheduling will be coordinated with all other maintenance activities, including mowing, aeration and fertilization.

11. If site has an irrigation controller, no manual watering shall be done by Contractor unless authorized by Customer.

3.03 Turf Management Program

The goal of the turf management program is to maximize plant health, deepen turf roots, water as per local reference ET and reduce the frequency of fertilization, mowing, dump fees and water run-off.

1. Mowing cycles may vary from 5 days (early Spring through Summer) to 10 days (late Fall through Winter) between cuttings. Varied mowing cycles are derived from Best Management Practices for healthy turf and seasonal growth habits of cool season grasses.
2. Contractor shall use grasscycling (the use of mulching mowers to keep grass clippings on-site) as the preferred method of turf clipping disposal. (Grass cycling adds nutrients to soil and reduces labor time, transportation and dump fees.) Grasscycling need not be used when turf growth is considered too high (as after rain and mowing delays.) To insure attractive and effective use of grasscycling, mow no more than 1/3 of turf height at any mowing.
3. Turf areas shall be edged as needed to maintain appearance. Turf spray nozzles shall be of a height to clear the highest unmowed turf growth height.
4. Aerification shall be performed in turf areas to promote deep rooting, water penetration and to avoid soil compaction. Aerification shall be performed as per the following schedule: early Spring (March/April), early Summer (June) and early Fall (mid September to early October.) Turf aerification shall be accompanied by complimentary cultural practices (i.e. top dressing with organic material and deep watering schedules) to insure the highest quality turf appearance and water efficiency. Cultural practices in combination with aerification and schedules are as follows:
Day 1 – irrigate turf normally
Day 2 - mow grass normally
Day 3 - aerify at least to 3 inch depth (deeper if possible with equipment and soil type)
Day 4 - add organic top dressing and fertilizer to turf, water normally
5. Turf fertilizers shall be applied within the range of 3-4 lb. per 1000 sq.ft. of actual Nitrogen per year, 2 lb. of Potassium per 1000 sq.ft. per year, 3 lb. of Iron per 1000 sq.ft. per year for cool season grass if and when soils tests suggest. (The goal is to reduce Nitrogen applied to turf in order to moderate growth and keep water needs down. This can be accomplished through the use of organic based and slow release fertilizers that contain Iron to maintain deep green color. See 3.03, 7.)
6. Aerification amendment is designed to (1) improve soil quality in turf areas, (2) allow deeper water penetration, (3) allow deeper turf root growth, (4) reduce water applications for turf, and (5) gradually reduce fertilizer applications for turf. The amendment shall be added to all turf areas using the above schedule. The amendment type and amount shall approximate the following directions: screened compost, such as Aguinaga Turf Plus, at 150 - 200 lb. per 1000 sq.ft. Use of amendment can be reduced over time as top dressing adds nutrients to the soil

3.04 Shrub Management Program

The goal of the shrub program is to develop a lush, natural appearance, promote flowering and keep pruning and trimming to a minimum for cost-effectiveness for the Customer.

1. Pruning shall be done on an as needed basis only. The intent of this style of pruning is to maintain the natural plant appearance. Shrubs are intended to fill planting spaces as much as possible. Shrubs on slopes are not to be pruned or shaped, but are to be allowed to spread naturally.
2. Shearing back of shrub stems and branches is not encouraged unless the plant poses a safety hazard, or unless directed by the Customer.
3. Shrub irrigation will approximate WUCOLS (Appendix V) water use recommendations for typical shrub species, generally 50% of local ET.

4. Shrub fertilization shall be performed using slow release, complete organic based products in April and October, or as indicated by the soil test results. Spot fertilization may be applied to color plants to encourage flowering.

All vines shall be kept "pinned" to fences or walls to maximize hardscape cover and provide green appearance.

5. Shrub list with specific actions included: **Example Only!!!**

Agapanthus - remove dead flower stalks shortly after flowers fade

Calliandra - keep pinned to walls and fences, let spread to cover as much area as possible

Daylily - cut dead flower stalks after bloom cycle ends, clean out old leaves monthly

Liriope - no trimming needed, old leaves will periodically need removal

Moraea - cut spent flower stalks after blooming, keep tip bum controlled as much as possible by (1) using Chelated Iron, and leaf trimming as needed

Nandina - no pruning needed

Rahpiclepis - no pruning required unless plant spreads out of planting space and causes a nuisance

Sword Fern - no pruning necessary, may require thinning, intended to fill dark planting spaces

Trumpet vine - keep pinned to walls and fences, let spread to cover as much area as possible

3.05 Groundcover Management Program

The site groundcovers are intended to fill large areas, provide significant color and present a lush appearance.

1. All groundcover areas shall be uniformly irrigated to insure consistent growth and plant coverage.
2. Groundcover areas shall be kept free of weeds and grasses.
3. Irrigation will approximate WUCOLS recommendation levels for the species.
4. Sparse groundcover areas will be checked for, a. soil moisture levels, b. irrigation coverage, to help determine growth problem. Bare areas may require hand tilling of soil, addition of amendment and replanting to create plant uniformity.
5. Fertilization shall be done with a complete, organic based, slow release product.

6. Groundcover list includes: **Example Only!!!**

Honeysuckle - requires annual cutback to avoid woody appearance, use complete fertilizer with Iron; chlorosis may mean too much water

Star Jasmine - will require trimming in small planter areas to be neat, preferred approach is to use consistent hand clipping of long stems (as opposed to mechanical shearing), plants against walls can be allowed to spread for maximum cover at the discretion of the customer.

Geranium - will require annual (winter) cutback to encourage new growth and flowering, should be used as a filler and accent among other groundcovers and shrubs, may require "blooming" fertilizer to maximize color, is a relatively short lived plant but is used in conjunction with other groundcovers and shrubs.

3.06 Tree Management Program

The association seeks to maximize the growth and health of tree species, while minimizing damages typically caused by trees or by the lack of proper tree care.

1. All new trees shall be staked to allow movement (at least 6") in the wind. Stakes shall be removed as soon as trees are deemed established in the soil or by one year of planting, whichever comes first.
2. Trees shall be deep watered to encourage deep roots and discourage surface root damages. Deep watering is especially important during the warm months (May-September). Soil moisture and

moisture depth shall be checked by hand soil probes. Irrigation will approximate WUCOLS recommendations for trees at levels approximately 50% of local ET.

3. Trees shall be fertilized in accordance with shrub fertilizer program.
4. Trees shall be pruned back only for safety or structural clearance, otherwise, pruning shall be performed as a "thinning" or "opening" to promote tree spread and shading potential. No more than 1/4 to 1/3 of leaf area shall be removed at any pruning. (International Society of Arboriculture standards to guide all tree pruning.)
5. Potential damages caused by tree roots will be identified on site walks. Where appropriate, root pruning shall be performed to avoid costly damages for the Customer.
6. Trees causing consistent physical damage or nuisance can be recommended for removal. Contractor shall report/recommend such hazards to the Customer.
7. Tree List: **Example Only!!!**

Carrotwood - Evergreen, thin in Winter months on a three year cycle, this tree can take stem and branch cut back to control spread in small areas, may need root pruning in some locations to stop hardscape damages.

Coral - Evergreen, needs preventive maintenance pruning of crossing and weak crotch limbs, thin in Spring annually as needed, avoid drastic stump cutback, root prune to eliminate hardscape damages. **Crepe Myrtle** - Deciduous, thin or prune to shape only in Winter, summer flower

Eucalyptus - Evergreen, do not top or cut back severely, thin only. If too large for space, remove entire tree.

Gleditsia - Deciduous, naturally open tree, allow to spread over streets, very little care, tip pruning can help raise branch heights (removes weight)

Koelrueteria - Deciduous, wants to be a large canopy tree, has deep root characteristic, can be pruned (Winter) to scale back size and /or thinned to open, flowers in late Summer with colorful bracts in Fall, will provide attractive shade if allowed to grow to size.

Pine - Evergreen, consistently check for spider mites, control with water spray, bio-control, and/or chemical spray, little to no pruning, may want to thin to remove dead needles yearly, may need root pruning to avoid hardscape damages.

Pistache - Deciduous, Fall color, allow to branch out and spread, slow grower, deep root characteristics, may need selected pruning to shape, let grow for some years before thinning.

Tabebuia - Deciduous, small tree, bright yellow flowers in Spring, naturally open, prune only to shape.

Tristania - Evergreen, thin or prune in Winter, can take branch cut back to encourage new growth where needed.

3.07 Green Waste/Trash Program

1. All green waste shall be taken to a green waste composting facility (exchanged for composted material if possible).
2. All shrub, tree and groundcover areas are to be kept clear of trash and debris.
3. Use of blowers is prohibited unless otherwise specified by the Customer. The removal of leaves from under shrubs is not necessary due to use of mulch. Street and parking pad leaves may be swept into mulch areas or picked up. Leaves falling into mulch areas (natural leaf drop) shall be left in the mulch unless otherwise directed by Owners Representative.

3.08 Mulching Program

1. Soils in all shrub, tree and groundcover areas, shall be kept covered with organic, shredded, composted mulch. Landscape areas will naturally experience loss or "breakdown" of mulch. This is caused by the natural micro-biotic action of decomposition. This action is exactly what improves and adds to soil quality, however, replacement of mulch to all areas will be required on an as needed basis. A minimum of a 2" layer of mulch is to be kept "up" at all times. This mulch program will also help eliminate weed growth. As shrubs grow to fill in planter spaces, less mulch will be needed. (Leaf drop under shrub plantings adds to the "natural" mulching of the site.)

2. Soil may need to be removed (and plants replaced) where soil is significantly higher than adjacent hardscapes and mulch is consistently kicked and/or washed out. This will produce catchment to help keep mulch in place.

3.09 Integrated Management Program

To insure maximum management impact for the Customer, an integrated management program shall be implemented. Integration relates to all aspects of the maintenance program. Each specific practice impacts all other practices. Examples of complimentary or integrated actions include:

- 1 Turf watering and mowing schedule - shut off turf watering stations 24 -48 hours before scheduled mowing; water within 24 hours after mowing.
2. Observe and analyze turf growth to determine appropriate mowing schedule (5-10 day window of mowing as season dictates), for maximum plant health, root growth and appearance.
3. Follow the water/mow/aerify/amend schedule in 3.03 for seasonal turf care.
4. Use grasscycling and soil test analysis to help reduce fertilizer frequency.
5. Use aerification, amendment and organic based, slow release fertilizers with Iron to moderate turf growth.
6. Schedule irrigation as per weather (ET) to produce the most attractive and cost effective turf for the Customer.
- 7 Use seasonal soil analysis to determine the actual need and application rates for fertilization before fertilizing.
8. Perform preventive maintenance checks on a regular basis to avoid major pest, disease, water related or root damage problems. Specifically check for observable evidence of pests or diseases, observe plant leaf color for nutrient deficiency signs, probing the soil to monitor moisture, read water meters weekly to check for unusually high water consumption (a sign of a leak or poor scheduling) and compare readings to actual ET data.