

## PLANT CARE AND LANDSCAPE MAINTENANCE GUIDE

### Introduction

The following is a plant care and maintenance guide intended to assist the homeowner or on-site manager / maintenance contractor in their goal to develop healthy and attractive plant material. This guide will address the specific maintenance procedures for the plant material including pruning and fertilizer requirements. It will also touch on suggestions for irrigation scheduling.

### General Maintenance

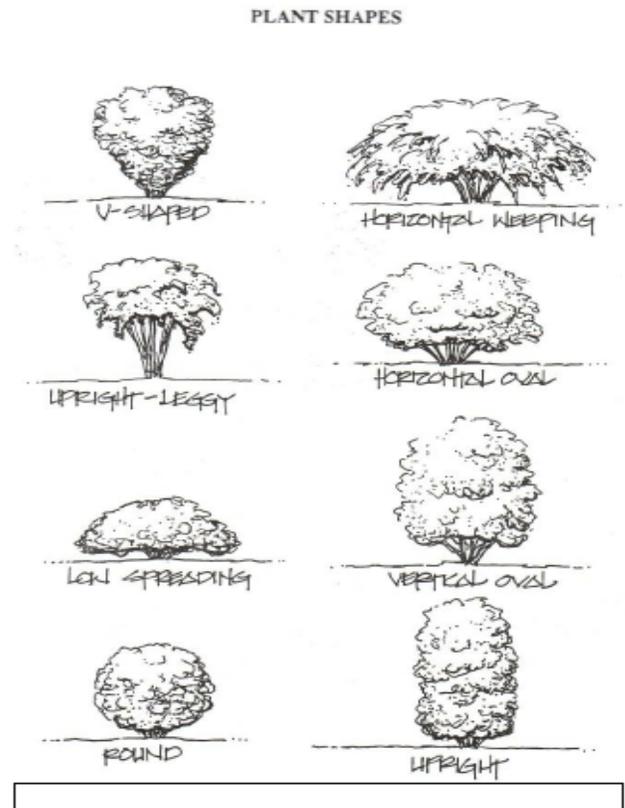
Regular maintenance is required on all projects to ensure a healthy landscape. **At a minimum, maintenance is suggested biweekly**; although weekly maintenance may be required for mowing of the lawns. Monthly inspections should be performed on the irrigation systems and bark mulch should be reapplied as necessary when it becomes thin and soil becomes visible. Once the plant material has matured, it should not be necessary to replenish the bark mulch. Weeding is required during every yard maintenance to prevent weed growth from getting out of control.

### Pruning

Most ornamental trees, shrubs and ground cover should only be pruned as needed to remove dead or damaged branches, dead foliage, or to help develop the natural form of the plant. Plants will perform better, look much nicer and require less maintenance if they are allowed to grow naturally without constant pruning. An exception, of course, would be in the case of a hedge. Hedging is only required when the intent of the planting is to define a border or provide screening.

The following are a few general pruning guidelines. More specific pruning needs will be listed with the plant species in the tables following these suggestions.

1. Prune early flowering plants once the flowers are spent. Flower buds usually develop during the previous growing season, therefore fall or winter pruning will dramatically reduce the flowering display. Camellia, Azalea and Rhododendron for example.



2. For summer flowering plants such as Lavender that develop flowers on new growth, prune immediately after flowers are spent in order to encourage a second bloom. Final pruning of dead flowers should occur in late fall or winter before new growth begins.
3. Avoid pruning plants with ornamental fruits and only as required to maintain shape. Examples include Cotoneaster, Viburnum and Myrtle.
4. Evergreens may be pruned during the winter, but heavy pruning of evergreens should be done in spring only.
5. Broadleaf evergreen shrubs shall be hand pruned if possible, to thin and maintain their natural form after the new growth hardens off. Avoid shearing.
6. Hedges or boundary shrubs that require periodic shearing to maintain a formal clean appearance shall be pruned as needed. Dead wood or branches shall be removed from sheared plants before the first shearing of the season. The diagrams below illustrate proper form.
7. Groundcover plantings shall be edged and pruned as needed to contain them within their borders.
8. Thinning may be required to remove old or dead branches and water sprouts (suckers). Cut the offending branches back to their point of origin on parent stems. This method will result in a more 'open' plant, without stimulating dense excessive growth. Thinning is often used on crape myrtles for example.
9. If plant Renewal is needed, remove the oldest branches of the shrub at ground level, leaving the younger more vigorous branches. In addition, remove weak stems. On overgrown, dense plants, this method may best be done over a two to three-year period. Renewal pruning can be used on Spirea and Xylosma for example.
10. Tree pruning should be practiced regularly for several reasons. The main goals of tree pruning should be to promote a sound, sturdy, structure, good aesthetics, ensure safety and improve overall tree health. While proper pruning is highly species dependent, the removal of weak, dead or crossing branches will benefit nearly every tree species and increase overall vigor. Under no circumstances are trees to be topped. Topping greatly reduces overall tree vigor and leads to weak branching that is hazardous visually unappealing.

### **Mow Free fescue**

Mow free fescue areas need only to be "cut" once a year in the spring season after the fescue produces its seed heads. Once the seed heads have appeared, walk the fescue areas with a string trimmer and remove the seed head and stem. Mow free fescue is not intended to be "traditionally" mowed with riding or push equipment; however, if the intent of the mow free fescue area is to look like a "traditionally-cut" lawn then regular mowing can occur. The mow free fescue should not be cut lower than 3". Mowing a "full stand" of mow free fescue will bog down power equipment. At no point should more than 2/3 of the grass blade be removed at one cutting.

## **Fertilization**

### **Lawns**

Lawns should be fertilized three times per year; in early spring, summer and early fall. Fertilizer requirements will differ throughout the year and a routine program should be developed that is specific to the soil and site conditions of the particular project.

### **Trees**

For the trees on site, the rate of fertilization depends on a number of factors including: the tree species, tree vigor, growth rate, and the available area in which fertilizer can be applied. Mature tree specimens may benefit from periodic fertilization every three to four years while younger trees should be fertilized more frequently. The recommended rate for fertilizer application is based on the square footage of canopy for a tree. It is critical to understand individual tree requirements before applying fertilizer. General recommendation for deciduous trees requires 2 to 6 pounds of nitrogen per 1000 square feet. Narrow leaf evergreens will benefit from 1 to 4 pounds of nitrogen per 1000 square feet. Broadleaf evergreens require 1 to 3 pounds per 1000 feet.

### **Shrubs and Groundcovers**

Shrubs and Groundcover should be top-dressed with a 1-2" layer of compost and fertilized in early spring with a standard 10-6-4 NPK fertilizer at a rate of 3 pounds per 100 square feet of bed area. Ericaceous plant material (azalea and rhododendron for example) shall be fertilized with an ericaceous or acid type fertilizer at the manufacturers recommended rate. It should always be noted that if plants are growing poorly, there is a good chance that it is related to soil chemistry. A soil analysis should be conducted to properly diagnose the problem. The analysis will provide suggestions to remedy the situation.

## **Watering Schedule**

Irrigation requirements vary greatly depending on soil structure, plant material and climate. It is critical for the contractor to adjust the watering schedule seasonally (spring, summer and fall) based on site conditions and local evapotranspiration rates. Traditionally, lawns require roughly 2" of water per week during the summer. Shrubs and ground cover, depending on variety, will require much less. Spring and fall requirements will vary depending on temperature. It is important for the contractor to understand the precipitation rates of each of the irrigation stations so he can apply the appropriate amount of water throughout the year. The contractor should perform an irrigation audit to determine the irrigation efficiency and precipitation rates of each valve. This information can then be incorporated into a schedule that will provide appropriate run times.

## **Irrigation System Maintenance Schedule**

A check of the irrigation system should be performed twice seasonally. Once at the beginning of the season when the system is first turned on and again halfway through the season. Preferable, the system should be checked on a monthly basis.

**Irrigation maintenance schedule:****1. Irrigation Controller**

Inspect the controller and make sure it's plugged in and functioning per industry standards. Update the time and date, check the connections on all of the wires, replace the internal back up battery once annually, change the schedule to reflect the current season and irrigation needs of the landscape and turn on each zone and look for damage.

**2. Repairs**

Check the entire irrigation system and repair any damaged or faulty equipment. Repair the following – leaking valves or pipes, broken or missing heads, clogged nozzles, seal leaks, sunken and/ or tilted heads, misaligned heads, over-spray, pressure problems and incorrect spray arcs.

**3. Sprinkler System**

Once the irrigation schedule is programmed, inspect the sprinkler system by checking the valves, sprinkler heads, and emitters. Before running the system, remove the last sprinkler head in each line and let the water run for a few minutes to flush out any dirt and debris. Replace the sprinkler head and turn the system on, running one valve at a time.

- Observe the spray patterns and position of the sprinklers for obvious problems such as clogged or misaligned heads.
- Some sprinkler heads may be tilted, surrounded by grass, or even buried. If not positioned properly, these sprinkler heads will be unable to apply water efficiently.
- Some sprinklers also have built-in filter screens that should be cleaned and replaced if necessary.
- Watch for leaks and misting from sprinkler heads that may indicate high water pressure problems. High pressure problems may be corrected by plumbing a pressure regulator into the sprinkler system. Pressure-regulating sprinkler heads are also available.

Make the necessary adjustments and repairs to the system in order to apply the water as evenly as possible. The flow control on the valves may also be adjusted to fine-tune the system. When this is done, turn the irrigation system on manually to make sure it is operating as programmed.

**4. Drip System**

As with sprinkler systems, flush the drip system before running it by removing the emitters and letting water run through the tubing for a few minutes to flush out any dirt and debris. Replace emitters and run the system, one valve at a time, to check for problems.

- Clogged emitters should be replaced. If the system does not have a water filter, one should to be installed.
- Check the placement of emitters. Emitters need to be at the edge of the root-ball on new plantings and moved to the drip line (edge of foliage) of established plants.



- Check for emitters that have popped off tubing because of high pressure and install a pressure regulator if needed.
- Check to see that all emitters are in place. Missing and broken emitters need to be replaced to keep your system running efficiently.
- Look for pinched or broken tubing and straighten or replace it. Also make sure that all tubing is attached to the appropriate emitters and that connections are secure.

Make the necessary adjustments and repairs to the system. When this is done, turn the irrigation system on manually to make sure it is operating as programmed.

## **5. Irrigation System Maintenance Checklist**

See the checklist on the next two pages.

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## Irrigation System Maintenance Checklist

### CONTROLLER

- ⇒ **Controller manual**  
Find the manual for your irrigation controller and make sure you are familiar with its operation.
- ⇒ **Controller cabinet**  
Open the cabinet for the irrigation controller and make sure it is free of debris such as cobwebs or dirt. This is also a good time to replace the battery.
- ⇒ **Wiring**  
Check all wiring connections for wear and breakage. Repair if necessary.
- ⇒ **Time/day settings**  
Check the time/day settings on your controller to make sure they are correct. This is also a good time to set up an irrigation schedule.
- ⇒ **Irrigation schedule**  
Set up your irrigation schedule. Ask your local county Extension office for a schedule tailored to your area.

### SPRINKLER SYSTEM

- ⇒ **Flush system**  
Before running the system, remove the last sprinkler head in each line and let the water run for a few minutes to flush out any dirt and debris. Replace the sprinkler heads and turn the system on, running one valve at a time.
- ⇒ **Broken or clogged heads**  
Look for obviously broken or clogged heads and make the necessary repairs. Consider installing irrigation heads that have screens to prevent debris (grass, soil, or bugs) from clogging the sprinkler heads. Clean out screens that may be clogged.
- ⇒ **Broken/leaking valve or pipe**  
Observe the lowest head in each station for leaks. Algae or moss may be growing in the area and may indicate the problem.
- ⇒ **High pressure**  
Look for a very fine mist from spray heads caused by excessive pressure in the system. Correct the problem with a pressure regulator after the water meter, pressure regulating sprinkler heads, or added devices on individual sprinkler heads.
- ⇒ **Low pressure**  
Check to see if the sprinklers are covering the desired area uniformly. If your pressure is too low, try watering at a different time or modifying your system so there are fewer sprinklers on each valve.
- ⇒ **Incorrect spray arc**  
Check to see that irrigated areas are being covered completely. Consider adjusting the spray pattern if possible or replace the spray nozzle(s) with another that has the correct spray pattern.

- ⇒ **Low head drainage**  
Check to see if water is draining through the lower heads. Install check valves where appropriate or replace existing heads with heads that contain built-in check valves.
- ⇒ **Mismatched heads**  
Check to see that different types of heads are not used in the same irrigation zone. Nozzles should also be correlated for matched precipitation rates.
- ⇒ **Over-spray**  
Look for over-spray of sprinklers onto sidewalks, driveways, and streets. The sprinklers' spray patterns should either be adjusted or changed to a pattern that will stay within the planting area.
- ⇒ **Spray pattern blocked or misdirected**  
Look for blocked spray patterns. Remove vegetation and other obstructions that may be blocking the spray or consider raising the heads.
- ⇒ **Sunken heads/short pop-ups**  
Check each head to see that it is at ground level. Raise sunken heads to grade or replace existing short pop-up heads in the lawn with taller pop-ups, as necessary. You can also trim around existing heads to avoid blocking the spray, but you will have to do this on a continual basis.
- ⇒ **Tilted heads**  
Heads should be aligned vertically, except in sloped areas. In a sloped area, heads should be aligned perpendicular to the slope to achieve proper coverage. Tilted heads can cause ponding and uneven coverage.
- ⇒ **Uneven or extended head spacing**  
Check to see if you have head to head coverage between sprinklers. If necessary, consult a qualified professional to design a system with head-to-head spacing.

## DRIP SYSTEM

- ⇒ **Clogged emitters/missing filter**  
Clogged emitters should be replaced. If the system does not have a water filter, one should be installed.
- ⇒ **Emitters too close/far from plant**  
Check the placement of emitters. Emitters need to be at the edge of the root-ball on new plantings and moved to the drip line (edge of foliage) of established plants.
- ⇒ **High pressure/missing pressure regulator**  
Check for emitters that have popped off tubing because of high pressure. Install a pressure regulator on the valve for all drip stations.
- ⇒ **Missing/broken emitter**  
Check to see that all of your emitters are in place. Missing and broken emitters need to be replaced to keep your system running efficiently.
- ⇒ **Pinched or broken tubing**  
Look for pinched or broken tubing and straighten or replace it.
- ⇒ **Tubing pulled/blown off single/multiple outlet emitters**  
Make sure all tubing is attached to the appropriate emitters and that connections are secure.