

# LONGWOOD UNIVERSITY

## Guidelines for Sustainable Landscape Management

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Guidelines for Sustainable Landscape Management

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## Guidelines for Sustainable Landscape Management

### **Introduction**

Longwood University has adopted these Guidelines for Sustainable Landscape Management to preserve ecological integrity, enhance natural diversity, and protect wildlife while supporting Longwood University operations. This plan includes the following:

- Nutrient Management plan /Fertilizer use Policy
- Landscape waste diversion Policy /Compost operations
- Green Maintenance
- Tree Policy
- IPM Policy
- Water conservation Practices
- Erosion and Sedimentation Control Plan

It also outlines role, responsibilities, and procedures (S.O.G. Standard Operating Guidelines) to be followed to protect the health and safety of the campus community while promoting landscape health, value and beauty of the Longwood University campus landscape.

### **Nutrient Management Plan/ Fertilizer use policy S.O.G.**

The state requires the Longwood University to maintain and follow a state certified Nutrient Management Plan for all university properties. A state certified nutrient planner is required to prepare the plan with help of Landscape and Grounds personnel for submittal to the Dept. of Agricultural for Virginia for approval. The plan is good for a three-year period, then the plan is renewed with revisions and Soil testing by the planner and Approval by the dept. The plan requires the Landscape and Grounds department to maintain yearly fertilizer usage and reporting to the state. State policy allows no more than 1 lb. nitrogen per year per 1000 sq. ft.

**Fertilizer Use Policy S.O.G. 410;** Fertilizer are seldom needed on healthy woody landscape with proper soil management, proper plant selection, and the use of organic mulches and compost. Longwood University will use organic fertilizers as part of a turf management program for its athletic sport fields to correct deficiencies that, if not used, would cause plant disease or death. Fertilizer application will be based on soil test recommendations and proper amounts. Synthetic fertilizers will be used as a last resort on the athletic sports fields when cold temperatures inhibit the function of organic fertilizers. Synthetic fertilizers will never used on the main campus lawns and landscape beds. All fertilizer applications on state property are required to be done by a State Certified applicator. Landscape and Grounds / Sports Turf department has 12 certified applicators on staff.

## **Landscape waste Diversion / Composting operation Policy S.O.G. 411**

Landscape waste shall be diverted from the waste stream in several ways. Turf will be mowed with mulching mowers. Grass clippings will be left to decompose on the turf. Woody debris will be chipped and composted and used as mulch on site. The Landscape and Grounds department operates a State permitted (DEQ) compost operation that uses all campus leaves, landscape plant material, coffee grounds and Dining Hall food Pulp. The L&G staff is required to pick up barrels of pulp from Dining Hall five days a week and take to compost area. This material is blended into rows and turned by loader to help speed the composting process. We produce about 200 cu yds. or 60 tons a year. The compost is screened and is used as soil amends for plant beds and color beds. Also used as topdressing for turf areas to increase nutrients such as calcium and magnesium that are essential to plant growth and water retention.

## **Green Maintenance**

Try reverting to “old-school” methods of maintenance. Pruning shrubs by hand is better for air quality, the plants, and allows the pruner to create more natural shapes. Pruning standards for campus S.O.G. 404 are followed as much as possible. Adopt landscape maintenance methods that rely upon human energy. Reducing the amount of machinery and chemicals used for landscape maintenance as much as possible. To help reduce fuel emissions by using non-ethanol blended 2 cycle mix in power hand equipment. Increase the use of battery powered hand tools as the technology for batteries increase run time and efficiency. Proper scheduling and routing of work crews to reduce fuel consumption for trucks and utility carts. As new equipment is purchased look at reducing emission in fuel types and noise reduction. Reduce the use of road salt and Sand granular products for ice removal by use of salt brine and corn-based additive in a liquid spray which uses less volume of product and increased efficiency in ice and snow control.

## **Tree policy**

The purpose of the Longwood University Tree Management Plan is to identify the policies, procedures, and practices that are used in establishing, protecting, maintaining, and removing trees on the Longwood campus. The overall goal of the plan is to ensure a safe, attractive, healthy, and sustainable campus forest. The specific objectives of the plan are:

- Ensure proper species selection, high quality nursery stock acquisition, and industry consensus planting procedures.
- Promote species diversity and proper age structure in the tree population.

## Guidelines for Sustainable Landscape Management

- Protect high-value campus trees during construction and renovation projects.
- Promote tree health and safety by utilizing ISA's best management practices when maintain campus trees.
- Ensure that trees are reasonably replaced when there is mortality due to weather, pest infestations, injury, or construction displacement.
- Encourage campus community members to respect and value the campus forest.

Go to Landscape and Grounds website to see the entire plan.

## **IPM Policy**

Integrated Pest Management (IPM) establishes a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health and environmental risks.

Longwood University has adopted an Integrated Pest Management Plan for all the landscaping and grounds the University manages. This plan outlines procedures to be followed to protect the health and safety of students, faculty, staff and visitors from pest and pesticide hazards. The plan is designed to voluntarily comply with policies and regulations by the US Department of Agricultural for University Facilities.

Objectives of this IPM plan include:

- Elimination of significant threats caused by pests to the health and safety of students, faculty, staff and the general public.
- Prevention of loss or damage to landscape or property by pests.
- Protection of environmental quality inside and outside buildings.

The goal of the plan is not the total elimination of a pest, but to minimize problems to an acceptable level.

This IPM plan is maintained in the office of the Director of the Landscape and Grounds Department.

## Water Conservation Practices

**Drip irrigation.** Drip irrigation system is to target at plant root zones to eliminate water transmission losses, such as wind, overspray, run-off, and evaporation.

**Hunter IMMS Central computer-controlled irrigation.** The nine turf irrigation systems on main campus are monitored by a central computer that controls settings and rain sensors for complete control. Schedules are set to run in early morning hours before 6am. to reduce water loss because wind and higher temperatures. Evapotranspiration data is used as a guide to determine watering frequency and volumes.

**Mulching.** The department uses several different types of mulch to provide insulation from high and low air temperatures. Coarse wood chips refract the sun's energy in several directions helping to regulate surface soil temperature thus reducing water loss to evaporation. Double shredded wood mulch is a finer product that allows water infiltration and is used to protect root structures of plants and trees. River stone as mulch lowers the soil temperature, inhibits weeds and requires less frequent replenishment. Department policy S.O.G. 206 covers proper standards for mulching on campus.

**Grass cycling.** Grass clippings will be left on the lawn to decompose, which adds organic matter to the soil and increase water holding capacity.

**Mowing Height.** The grass on campus is mowed at a range of 3" to 4" to shade the soil, reducing evaporation and decreasing water needs. Also puts less stress on plants.

**Grass types.** The campus has gone from mainly one type of cool season fescue grasses to a variety of warm season and cool season mix. Sites with direct sunlight or large areas of reflecting concrete surfaces or glass walls produce high temperatures which require a grass that can stand this type of micro climate. So, hybrid Bermuda or Zoysia is used in these types of areas or sites with limited irrigation. They require less inputs and less water under high temperatures. They handle foot traffic and activities with less wear.

**Aeration.** The lawns areas are aerated to increase water and air penetration, encourage a deeper, healthier root system that is better able to with stand longer periods without watering.

## Erosion and Sedimentation Control Plan

### Ongoing Landscape Operations

There was no existing erosion problem areas on campus at the time this guide was written. In

the future, most erosion issues will likely occur from construction projects. Ongoing erosion and sedimentation control via operations shall focus on maintaining slopes and drainage facilities. Strategies for control include the following actions, to be taken by appropriate staff:

- Periodically check and clear roof drains, downspouts, drainage ditches, and other drainage infrastructure.
- Periodically check for loose soil on slopes during rainy season. Establish and maintain organic mulches and ground covers with the goal of covering exposed soil quickly and completely.
- Check for standing water and other evidence of poor drainage after rain storms.
- Clean up sources of sedimentation, such as plant growing over paved surfaces.

### **Future Construction Activity**

All construction projection on the Longwood University campus shall meet the state requirements for Storm Water Management, Erosion and Sedimentation Control Plans. Capital planning and construction Department is responsible for making sure a plan is in place for all projects and for monitoring, performing inspections and enforcing state regulations on campus.