

Biltmore Estate Grounds Department



BILTMORE™

- Biltmore is the estate of George W. Vanderbilt
- Constructed in the late 1800's.
- National Historic Landmark
- Original property contained 125,000 acres
- Continues in private ownership by the descendants of Vanderbilt
- Managed is a privately owned, profitable, working estate.
- Attractions including Biltmore House, Antler Hill Village, Biltmore Winery, and the Inn on Biltmore Estate.

Introduction, continued

- The focal point of the estate is Biltmore House, the largest private home in America.
- This residence was designed by preeminent architect **Richard Morris Hunt** and modeled after sixteenth century French Renaissance period chateaux.
- The Biltmore House has 175,000 square feet of floor space, covering four acres, and includes 250 rooms, 43 bathrooms, 65 fireplaces and 3 kitchens.
- Designed by the father of landscape architecture, **Frederick Law Olmsted**
- Olmsted designed the landscape features to protect the environment, reclaim over-farmed land and produce America's first managed forest.
- The estate now consists of 8,000 acres of expansive landscape surrounding Biltmore House.

Biltmore Horticulture Department

The departments within Horticulture are:

1. LANDSCAPING
2. HISTORIC GARDENS
3. ARBORICULTURE
4. FIELD-TO-TABLE
5. GROUNDS



Horticulture- Landscaping Department

- This department manages annual and perennial landscape plantings around the estate including Antler Hill Village, the Winery, Inn on Biltmore Estate, Lioncrest, Deerpark, executive residences and the main Estate entrance, or Lodge Gate.



Horticulture- Historic Gardens

This department manages annual and perennial landscape plantings at the formal Walled Garden, Azalea Garden, Spring Garden, Shrub Garden, Bass Pond, Lagoon and the Approach Road leading to the Biltmore House.



Historic Gardens, continued

Coordination of work



Walled Garden East Turf Panel



Horticulture- Arboriculture

- Manage the larger trees in landscape areas adjacent to roadways and guest use facilities.
- The Arborists have a variety of large equipment
- On large tree take-downs, an outside crane company is contracted or Grounds Maintenance staff provides assistance



Horticulture- Field to Table

This department manages a ten acre vegetable garden for producing vegetables and fruit for the restaurants on Biltmore Estate.



Grounds Department

- Two Crews
- Turf Crew- 8 staff
- Manage 120 acres of improved turf
- Project Crew- 6 staff
- Equipment operation for landscape development projects, road and trail management, composting, field mowing, wildlife food plots, drainage renovation and snow removal.
- Grounds provides services of staff, equipment operation and facility maintenance for 30 other departments within the Biltmore Company.

Areas of Grounds Management

- Open Fields- 300 acres
- Reservoirs- 5
- Wildlife Ponds- 6
- Wildlife Program Fields- 135 acres
- Roadside Signage
- Invasive Plant Management
- Winter Weather Response
- Utility Right-of-Way Plant Management
- Forestry Program assistance- post harvest road renovation
- Outdoor Programs assistance
- Snow and Ice removal



Site Management- Deerpark Complex

Areas of Grounds Management Under Jurisdiction

- Turf
- Trees
- Shrubs
- Ground Covers
- Flowers
- Mulches
- Irrigation
- Pavings and Drainage
- Open Fields
- Signage
- Trails
- Fencing



Turf Management

- Three strategies.
- **High Profile** Guest Use Areas- associated with a prominent feature of the Estate and highest degree of guest use. An example is the upper Walled Garden, pictured to the right. Covers 11 acres
- other **Priority** areas
- **Roadside** turf. Covers 69 acres
- Some High Profile areas are mown twice per week.



Turf Use by Guests

Variety of slopes, soils, aspects, and expectations.



Turf Management

- Turf Crew operates somewhat like a NASCAR Pit Crew
- Each staff member has an assigned task for the area and quickly begins work upon arrival.
- Each staff has his own assigned mower
- In and Out, fast!
- While certain staff will operate riding mowers, another will use a push mower, one will be on a weedeater, one on an edger and another will use a backpack blower to do post operation clean-up.



Turf Management continued

- Large commercial grade mowers
- Both Toro and John Deere brands
- Cutting widths of 60 inch to 16 feet
- Push mowers for narrow locations
- Each location in the mowing rotation uses a specific combination of mower types to efficiently accomplish the assignment.



Turf Mowing- continued

Walled Garden push mowing



Edging - inverted string trimmer or a designated stick edger.



Turf Management- Leaves

Leaves removed from turf areas

Variety of equipment types



Parking Accommodations

Group Parking for large buses

Handicap parking access



Deerpark Complex- Trail and Carriage Barn

- The Trail Barn is where guests come to enjoy an hour long saddle horse ride or carriage ride.
- The rides are offered throughout the day, morning and afternoon.
- Each program has its own set of horses and trails.
- Equestrian Passholder Program



Deerpark Complex- Trail Barn

The daily use of the saddling corral leads to damage from horses pawing the ground and gnawing on the wood fencing. The Grounds Project Crew is frequently scheduled to replace the screening base and other maintenance.

Prior to and after saddling, the horses wait patiently for the next rider. Sometimes their patience wears thin, or maybe they are just ornery or curious. This leads to damage to the facility.



Deerpark Complex- Trail Barn

Projects at the Trail Barn

- Fence Construction
- Pasture clearing and weed control
- Invasive plant control
- Drainage projects on holding yards



Horse Trail Management

Single track horse trail

- Carriage Trail
- Gravel
- Routine and corrective grading



Drain Patrol

Over 550 roadside drop inlet drains

Clean out process



Turf Management



Turf Management- Specialties

Turf Repair, continued

Removal of the damaged sod was accomplished with both machines and hand labor.



The final grading is done with hand tools to ensure the finished job transitions with the remaining turf.



Mulches

The Brush Dump



Ground Wood Mulch



Composting

Leaves



Herbaceous Material



Snow Removal



Walking and Biking Trails



HIKE/BIKE TRAILS

Westover Trails: located at the Inn on Biltmore Estate®, these trails provide access to some of Biltmore's beautiful woodland. Loop these trails in a clockwise direction to enjoy miles of rolling hills and peaceful scenery. If biking, take the Black Trail for technical single-track; the Blue Trail for a smooth flowing ride; and the Green Trail for an easier warm up.

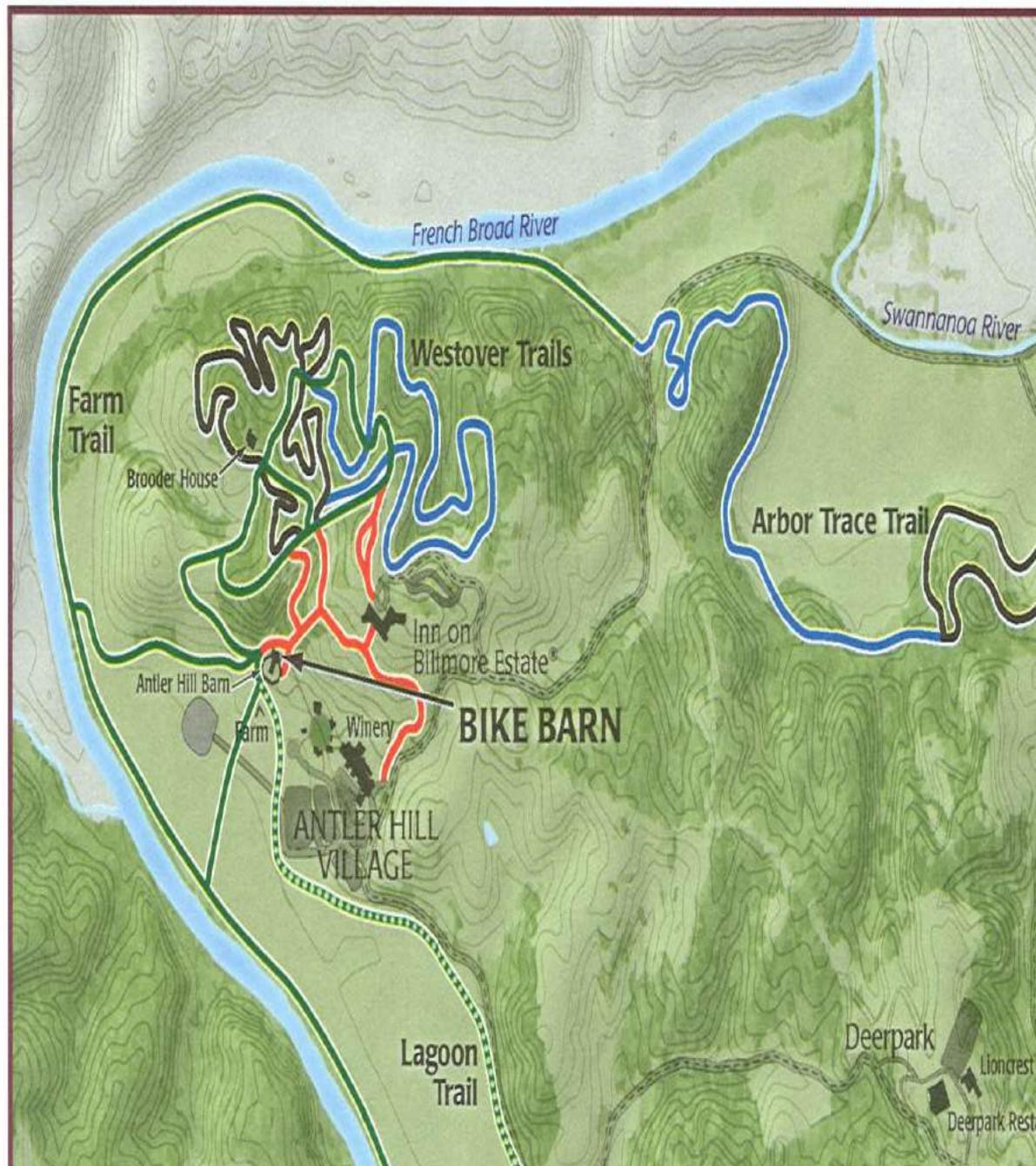
Distances (round trip): Green Trail: 1.7 miles · Blue Trail: 2.8 miles · Black Trail: 3.5 miles

Arbor Trace Trail: take the Farm Trail to access this trail, which travels in and out of the woods providing scenic views of the estate's agriculture and the historic Market Gardener's Cottage.

Distance (round trip): 3.5 miles

Deer Park Trail: from the Lagoon, take this trail through the Deer Park and up the hill to the South Terrace of Biltmore House; you can also access estate gardens and the Bass Pond.

Distance (round trip): 2.5 miles



Gravel Roads

- 30 miles of gravel roads on the Estate.
- Grading and placement of stone to provide all weather access.
- Both guest and service traffic



Open Field Management

The Deerpark, below Biltmore House



Wildlife Program

Planting Crops



Wildlife Crops

Crops- corn, soybeans, sunflowers,
milo, millet

Legumes



Wildlife Control



Drainage Systems

Field Drains



Detention Basins



New Drainage Installation

The project below was a part of the construction of a Land Rover Driving Course for quarter scale cars for children. Several new drop inlet catch basins were installed to provide adequate drainage.

All existing drain lines were plumbed into the new line. As this is often “non-standard”, the Grounds staff must be knowledgeable of plumbing various types and sizes of pipe.



Bio-Fuels Production

In the fall of 2012, Biltmore entered into a production agreement for bio-fuels. Below is one of five fields, with a total of 50 acres, planted to canola to be harvested in the late spring of 2013.

Below are the young canola plants soon after emergence. Grounds staff involvement in this program included equipment operation for control of existing vegetation and pre-plant field preparation.

