The Campus Landscape: Then, Now & Tomorrow

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Georgia Tech
circa 1920

View of Historic Campus from Across North Ave.
Georgia Tech
circa 1980s
Georgia Tech Landscape Master Plan

...a landscape...unique to Georgia Tech - a Performance Landscape - joining technology and ecology to create great sense of place...
integrates landform, hydrology, soils, and biological communities...
trees shape microclimate and engage the hydrologic cycle, where soils drink in stormwater instead of discharging it into sewers, where biomass sequesters carbon, improves air quality and increases biodiversity.

The landscape is also a cultural entity that integrates open space, buildings, circulation and human behavior and experience.

Key Concepts:
Georgia Tech Landscape Master Plan

Stormwater Basins
Eco-commons – A Performance Landscape

Goals:

• Develop integrated, ecologically-based landscape and open space systems (storm water management)
• Enhanced living, working, learning environment
• Unify the campus with a distinct sense of place
• Increase tree canopy, replace aging trees
• Create Eco-Commons (80 acres)
• Implement ecological performance requirements of 50% reduction of storm water runoff
Tree Inventory GIS Mapping
Active trees – 12,427
(08/03/2019)

2019 tree canopy coverage
24% (96 acres)

Projected 2039 tree canopy
35% (138 acres)

Campus area for canopy calculation is 397 acres

Approximate percent canopy increase from 2019 to 2039
+46%
Species Distribution – All active trees 2019

Tree count 12,427

Tree Distribution - Top Dozen Species (All Active 2019)

- Common Crapemyrtle: 8%
- Loblolly Pine: 7%
- Red Maple: 4%
- Water Oak: 4%
- Southern Magnolia: 3%
- Willow Oak: 3%
- American Holly: 3%
- Tulip Tree: 3%
- Flowering Dogwood: 3%
- Shumard Oak: 2%
- Virginia Pine: 2%
- Eastern Redbud: 2%
- Other trees: 56%
2015 to 2019 Species Comparison

2012 Total tree count: 11,046 Trees

Gained 1381 trees since 2012

2019 Tree count 12,427
Species Distribution – Year1 re-inventory zone (2016)

Year 1 Zone - caliper growth after 4 years
14.6% increase in cumulative caliper growth.

Tree count 1,821
Species Distribution – Year2 re-inventory zone (2017)

Year 2 Zone - caliper growth after 5 years
15.2% increase in cumulative caliper growth

Tree count 2,548

Tree Distribution - Top Dozen Species
Re-Inventory Zone Y2 (2017)
Species Distribution – Year3 re-inventory zone (2018)

Year 3 Zone - caliper growth after 6 years
24.5% increase in cumulative caliper growth.

Tree count 2,602
Species Distribution – Year4 re-inventory zone (2019)

Year 4 Zone - Currently being updated.

Tree count 2,335
Current Tree canopy Coverage

Tree count 12,427

Tree Canopy Cover (Aug. 2019)
Projected Tree Canopy Growth – 20 years

Estimates for Growth
20 years

Canopy Trees under 10” caliper assume 50% growth

Canopy Trees 10-20” caliper assume 25% increase

Canopy Trees 20-30” caliper assume 15% increase

Canopy Trees 30”-50” caliper assume 7.5% increase

Canopy Trees over 50” caliper assume 2.5%

Remaining “Non-Canopy” tree species assume 25% increase.
Tree Canopy Projection Overlay

Tree Canopy Cover (Aug. 2019)
Tree Canopy Cover 2039 (Projected)

24% --> 35%
46% increase in canopy cover
Campus Center re(in)novating
Campus Center – Phase 1
Campus Center – Phase 2
Eco-commons
EcoCommons Living Building Sector Plan
### Environmental Monitoring Devices

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<th>Test</th>
<th>Type</th>
<th>EcoCommons Quantity</th>
<th>Additional Reference Quantity (not shown)</th>
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Soil Comparisons

**pH**

Mean pH = 7.64
(Range = 6.7 to 8.0)

Project Site

Mean pH = 5.12
(Range = 4.9 to 5.7)

Reference Forest

**Organic Matter %**

Project Site: 1.0%

Reference Forest: 7.1%
Soils Plan
Thank you