Campus Master Plan Overview

Meeting Today’s Challenges while Planning for Tomorrow

October 31, 2014

Howard S. Wertheimer, FAIA, LEED AP
werth@gatech.edu
Director, Capital Planning & Space Management

www.space.gatech.edu
Georgia Tech circa 1920
1892 Aerial View of the sectors showing historic drainage patterns (aerial perspective with highlighted watersheds)
Georgia Tech Campus--circa 1997

9,500  Undergraduates
3,500  Graduate Students
4,000  Faculty/Staff
7,400,000  GSF
2004 Master Plan

Plan targets for 2014
- 13,500 Undergraduates
- 8,700 Graduate Students
- 7,600 Faculty/Staff
- 15.6 M GSF

Illustrative Plan
Campus Map

Legend
- Future Building
- Green Space
- Areas Preserved for Storm Water Management
- Area of Interest

Color Use
- Instructional / Research Support Services
- Athletic
- Greek / Other Organizations
- Parking Deck
- Residence Halls

The Georgia Institute of Technology
A Unit of the University System of Georgia
Atlanta, Georgia

2004 Master Plan Update
2013 Existing Conditions

13,948 Undergraduates
6,993 Graduate Students
7,365 Faculty/Staff
14.7 M Gross SF
Annual Growth

Gross Sq. Ft. by Year Chart (1997-2013) and projected thru 2014

1997 - 2013
• 439,218 gsf average growth per year
• Faculty/Staff: 231 increase per year
• UG Students: 292 increase per year
• Grad Students: 201 increase per year
• Total Population Growth: 725 per year
Annual Growth

Research & Development Expenditures FY 1997-FY2013

Dollars (In Millions)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$200</td>
<td>$220</td>
<td>$240</td>
<td>$260</td>
<td>$280</td>
<td>$300</td>
<td>$320</td>
<td>$340</td>
<td>$360</td>
<td>$380</td>
<td>$400</td>
<td>$420</td>
<td>$440</td>
<td>$460</td>
<td>$480</td>
<td>$500</td>
<td>$520</td>
</tr>
</tbody>
</table>
Georgia Tech Facilities – Renovated since 1997
Historic Preservation Planning
Landscape Master Plan

Key Concepts:
- Ecological Landscape
- Human Landscape

Goals:
- Develop integrated, ecologically-based landscape and open space systems (storm water management).
- Enhance living, working and learning environment.
- Unify the campus with a distinct sense of place.
- Increase tree canopy - replace aging trees
- Create an Eco-Commons (80 acres)
- Implement ecological performance requirements of 50% reduction of storm water runoff
What is the Campus Landscape?

It is an ecological landscape governed by biophysical processes and a human landscape governed by the experience and activities of people…it’s everything that is rained on…
Ferst Drive Streetscape

Before

After
Biotechnology Quad (2007)
80 trees planted in amphitheater area
Eco-Commons
Eco-Commons
Eco-Commons
Cistern Master Plan

Clough Commons Cistern:
- 1.4M gallon cistern capacity
- 28 day supply for irrigation
- 28 day supply for toilet flushing
- 30% reduction in stormwater
Stormwater Master Plan
Phase I - Coordinate with Campus Development Projects

Stormwater Master Plan Phase 1 – Sub-basin 9

LEGEND

- **Existing Cistern**
- **Cistern - Stormwater**
- **Cistern - Reuse (Clean Water)**
- **Infiltration Area**
- **Green Roof**
- **Blackwater Treatment Water and Supply (to Chiller Plant)**
- **Future Building**
- **Well**
- **Stormwater for Irrigation - Gravity Piping**
- **Stormwater for Irrigation - Pressure Piping**
- **Supply Water for Toilet Flushing**
- **Condensate/Roof Runoff to Cistern**
- **Treated Blackwater for Chiller Plant & Toilet Flushing**
- **Existing Condensate/Roof Runoff to Cistern**

Implementation Benefits:
- ✔ Volume Reduction
- ✔ Water Quality

Probable Cost Opinion:
$270,000*

*Does not include field resurfacing
Phase 1 - Construction

Provides 44,500 Cubic Feet of Stormwater Infiltration Volume
- Over 9.5 times the City of Atlanta requirements.
- Provides storage for future development
- Provides flow reductions for projects with insufficient land area to meet city requirements (campus-wide approach)
Stamps Field
3.75 acres synthetic turf
Stamps Field
Infiltration areas

Infiltration Cell
Drainage Grid
Infiltration Cell
To City Sewer
1.4m Gallon Cistern
- water for toilet flushing,
- irrigation for approximately 13 ac
- water for the Campanile Fountain
- manages stormwater for 22.5 ac
Augmented Reality

Developing Augmented Reality Tour

View from Clough Green Roof
Georgia Tech
Potential Opportunities for Solar Panels
Bicycle Master Plan

- Capital Planning & Space Management
- Parking & Transportation
- Bicycle Infrastructure Improvement Committee (BIIC)
- Dr. Kari Watkins (Civil Engineering)
*Buildings currently seeking LEED certification and anticipated to achieve levels as listed.
**Certifiable buildings were designed using sustainable practices however did not seek LEED certification.
Overview:
The Georgia Tech campus is home to a 15-piece international exhibition by various artists. The exhibition, on loan to the Institute, features a 50-foot steel piece titled La Tour by the internationally acclaimed, Chattanooga-based sculptor John Henry, who also is the curator for the exhibition.

Engineered Art is part of Arts@Tech, an initiative to enhance the Georgia Tech community by fostering programs and events spanning the arts spectrum at the intersection of technological innovation and creative expression. The initiative is an outcome of the Institute's Strategic Plan.

The sculpture exhibition is free and open to the public.

About the Exhibition:
Each of the 15 works represents the best of contemporary sculpture by some of its most recognized artists. Made from a variety of materials including steel, aluminum, cast fiberglass, copper, concrete, wood, and rubber tires, the pieces represent a diversity of styles, themes, and technical approaches characterizing our times. The location of each sculpture was chosen to complement Georgia Tech's lush and open green spaces.

The exhibition's curator, John Henry, is known for his large-scale public sculptures. Since the early 1970s, he has produced monumental works for museums, cities, and public institutions across the United States, Europe, and Asia.
Current Projects

- Glenn & Towers Residence Halls
  - Phase 1 (Towers) occupancy: August 2014
  - Phase 2 (Glenn) occupancy: August 2015
- Chapin Building – Institutional Diversity/OMED
  - Occupancy November 2014
- Caddell Building – Building Construction
  - Final completion February 2015, Occupancy March 2015
- Boggs 2nd Floor – Chemistry
  - Occupancy May 2015
- Marcus Nanotechnology 2nd Floor – IEN
  - Occupancy June 2015
- Engineered Biosystems Building
  - Occupancy Summer 2015
- Tech Tower
  - BOR approved A/E selection September 2014
- Renewable Bioproducts Institute (RBI) - formerly IPST
  - Programming study underway
- Environmental Health & Safety
  - A/E selection September 9, 2014
- EmTech Library Service Center
  - Completion November 2015
- Price Gilbert Crosland Tower Library
  - Phase I (Crosland Tower) occupancy: Summer 2017
  - Phase 2 (Price Gilbert) occupancy: Winter 2018
Caddell Building Renovation
Joyce & John Caddell Building

Architect: bldgs  CM: Evergreen Construction; TPB: $3.25M
Leadership Challenge Course and Pavilion (2009, 2011)
Architect: Houser Walker, CM: Georgia Development Partners, TPB: $1.9M
Academic Buildings

G. Wayne Clough Undergraduate Learning Commons (2011) LEED Platinum
Architect: Bohlin Cywinski Jackson, CM: Turner Construction Co., TPB: $93.6M
Academic Buildings

G. Wayne Clough Undergraduate Learning Commons (2011)
G. Wayne Clough Undergraduate Learning Commons (2011)
Academic Buildings

G. Wayne Clough Undergraduate Learning Commons (2011)
Academic Buildings

Hinman Renovation Building (2010) LEED Gold
Architects: Lord, Aeck & Sargent and office dA, CM: The Beck Group, TPB: $10.9M
Price Gilbert - Crosland Tower Renewal
Price Gilbert / Crosland Tower
Reimagining the Georgia Tech Library

Vision Statement

A network for discovering and retrieving (living) information. A “launching pad” for turning information into knowledge, advancing ideas, and experimenting.

Georgia Tech Library will define the technological research library of the 21st century.

We will enable people to explore the past and design the future by bringing together inspirational spaces, curated content, expert guidance, and scholarly communities.

Showcase physical and digital content and activity by and at Tech.

Inspire users to create new scholarship and allude to “what’s next.”

Help people carry out their visions and proactively uncover needs. The Library is not just about its spaces and collections, but is driven by its people and their expertise and knowledge.

Bring people together from across campus to share and collaborate. Connect them to communities around the world.
Grove Looking Southward - Existing
Grove Looking Southward – Conceptual Design
Cherry Street Looking Northward - Existing
Cherry Street Looking Northward – Conceptual Design
Carbon-Neutral Energy Solutions (C-NES) Laboratory Building (2012)
LEED Platinum
Design/Builder: HDR/Gilbane Building Co., TPB: $24.7M
Engineered Biosystems Building (EBB)

Interdisciplinary Thematic-based Research:
- Cell Therapies
- Chemical Biology
- Computational Biology

Architect: Cooper Carry with Lake Flato, CM: McCarthy; TPB: $113M
J-198, GT Engineered Biosystems Building
October 1, 2014

By: Crawford Aerial Photography, Inc
www.CrawfordAerialPhotography.com, 404-862-7888
J-198, GT Engineered Biosystems Building
October 1, 2014

By: Crawford Aerial Photography, Inc
www.CrawfordAerialPhotography.com, 404-862-7888
EBB - Lobby View
Tech Square Phase 2

- (aka HPC / Interdisciplinary Research Building with High Performance Computing Backbone)
Tech Square Phase 2 – Massing Study

- **20 Story Tower**
  - 1 Retail
  - 2-5 Parking
  - 6-10 (36,000 GSF) Office Space
  - 11-15 (28,800 GSF) Office Space
  - 16-20 (21,600 GSF) Office Space

- **Data Center**
  - 1 Level below grade
  - 3 Levels above grade
  - 20,000 SF per Floor

- **Active Use Space**
  - Office or Retail
  - Loading Dock
  - Parking
  - 4 Levels of above grade parking (560 spaces)

- **Existing Historic Building**
  - 8,500 SF Designated for Retail

- **Program Analysis**
  - **Office Space**: 445,500 GSF
  - **Data Center**: 80,000 SF
  - **Retail**: 16,800 SF
  - **Total Retail**: 25,300 SF
  - **Parking**: 196,800 SF
  - **Total Parking**: 560 Spaces

- **Potential**
  - Green Roof/Areas of Respite

- **Street Names**
  - West Peachtree St.
  - Spring St.
  - Peachtree St.
  -过路街
Tech Square Phase 2 – Massing Study

- 28 Story Tower
  - 1 Retail
  - 2-6 Parking
  - 7-28 (23,200 GSF) Office Space

- 18 Story Tower
  - 1 Retail
  - 2-6 Parking
  - 7-18 (21,600 GSF) Office Space

- Active Use Space
  - Office or Retail Loading Dock
  - Parking
    - 5 Levels of above grade parking
      - 252,000 SF / 720 spaces

- Existing Historic Building
  - 8,500 SF Designated for Retail

- Potential
  - Green Roof/Areas of Respite

- Parking
  - 2 Levels of below grade parking
    - (98,400 SF / 280 spaces)

- Data Center
  - 1 Level below grade
  - 3 Levels above grade
    - 20,000 SF per Floor

Program Analysis

<table>
<thead>
<tr>
<th>Category</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Space</td>
<td>726,350 SF</td>
</tr>
<tr>
<td>Data Center</td>
<td>80,000 SF</td>
</tr>
<tr>
<td>Retail</td>
<td>16,800 SF</td>
</tr>
<tr>
<td>Total Retail</td>
<td>25,300 SF</td>
</tr>
<tr>
<td>Total Parking</td>
<td>350,000 SF</td>
</tr>
<tr>
<td>Total Parking</td>
<td>1,000 Spaces</td>
</tr>
</tbody>
</table>
Interdisciplinary Design Commons (Van Leer)
Van Leer / Interdisciplinary Design Commons
Van Leer / Interdisciplinary Design Commons
Student Center Expansion and Renovation
Ferst Center for the Performing Arts
Architecture + Engineering + Landscape + Ecology + Technology + Fiscal Stewardship
Upcoming / Future Projects

• Academic Space Assessment & Improvement Strategy
• Tech Tower
  ‒ BOR approved A/E selection September 2014
• Environmental Health & Safety
  ‒ A/E selection September 9, 2014
• Tech Square Phase 2 (HPC)
  ‒ Developer selection Q1 2015
• Van Leer – Interdisciplinary Design Commons / TI maker space
• West Campus Dining (will include +/- 10,000 sf of academic space)
  ‒ A/E selection March 2015
• Dalney Street Parking Deck (will include +/- 50,000 sf of office space)
  ‒ A/E selection December 2014
• Student Center – Vision Study
• Sustainable Innovation Building
• DM Smith
• ESM/Aerospace
• Southwest Campus Chiller Plant
• EBB2 & EBB3
• Ferst Center
• 150 North Avenue
• Alumni House/Visitor Center
Campus Master Plan Overview

Meeting Today’s Challenges while Planning for Tomorrow

October 31, 2014

Howard S. Wertheimer, FAIA, LEED AP
werth@gatech.edu
Director, Capital Planning & Space Management

www.space.gatech.edu