Future of Modern Architecture on USG Campus’
What is Modern Architecture?

*Is it style?*
*Is it materials?*
*Is it spatial characteristics?*
Mid-20th Century Buildings Workshop

Facility Officers Conference/ Columbus, Ga./ 26 October 2011

Style?
Mid-20th Century Buildings Workshop

Facility Officers Conference/ Columbus, Ga./ 26 October 2011
Configuration?

Mid-20th Century Buildings Workshop

Facility Officers Conference/ Columbus, Ga./ 26 October 2011
Modern Architecture is a progression of design and construction that spans from the late 19th Century to today.

Mid-century is a discrete span of time along that progression
Future of Mid Century Modern Architecture

Sustainability
Project Financing & Life Cycle
Maintenance
Planning & Design

Mid-20th Century Buildings Workshop

Facility Officers Conference/ Columbus, Ga./ 26 October 2011
Sustainability and the Future of Mid Century Modern Architecture

Building Envelope
Building Systems
New Technology

Mid-20th Century Buildings Workshop
Facility Officers Conference/ Columbus, Ga./ 26 October 2011
Sustainability and the Future of Mid Century Modern Architecture

Building Envelope Performance
Building Systems Performance
New Sustainability Technology

Mid-20th Century Buildings Workshop

Facility Officers Conference/ Columbus, Ga./ 26 October 2011
Sustainability and the Future of Mid Century Modern Architecture

Building Envelope Performance
Building Systems Performance
New Sustainability Technology

Mid-20th Century Buildings Workshop
Facility Officers Conference/ Columbus, Ga./ 26 October 2011
Sustainability and the Future of Mid Century Modern Architecture

Building Envelope Performance
Building Systems Performance
New “Sustainability” Technology

Mid-20th Century Buildings Workshop
Facility Officers Conference/ Columbus, Ga./ 26 October 2011
Sustainability and the Future of Mid Century Modern Architecture

Recent Experience with Mid 20th Century Historically Important Dormitory Building

*Question of Window Replacement or Repair*
Sustainability and the Future of Mid Century Modern Architecture

Recent Experience with Mid 20th Century Dormitory Building

*Question of Window Replacement or Repair*

**Approach:**

- Energy Modeled Entire Building not just windows
- Compared the Results of the modeling with energy performance of other dormitories on campus
Sustainability and the Future of Mid Century Modern Architecture

Recent Experience with Mid 20th Century Dormitory Building

Question of Window Replacement or Repair

Approach: Modeled Entire Building not just windows

Conclusions Regarding Windows

• Energy performance as good as or better than manufactured “replacement” window units being considered.
Sustainability and the Future of Mid Century Modern Architecture

Recent Experience with Mid 20th Century Dormitory Building

*Question of Window Replacement or Repair*

Approach: Modeled Entire Building not just windows

**Conclusions Regarding Windows**

- Frames performed as well as or better than manufactured “replacement” window frames
- Historic frame retrofitted with insulated glass unit and weather-stripping achieved parity with “replacement” windows.
Sustainability 
and the Future of Mid Century Modern Architecture

Recent Experience with Mid 20th Century Dormitory Building 
*Question of Window Replacement or Repair*

Approach: Modeled Entire Building not just windows

**Conclusions Regarding Windows**

- Frames performed as well as or better than manufactured “replacement” window frames
- Frame retrofitted with insulated glass unit and weather-stripping achieved parity with “replacement” windows.
- Historic Frame Construction is repairable and therefore sustainable, Manufactured Window Unit are typically not Repairable and if so repair work is proprietary.

**Mid-20th Century Buildings Workshop**

Facility Officers Conference/ Columbus, Ga./ 26 October 2011
Sustainability and the Future of Mid Century Modern Architecture

Recent Experience with Mid 20th Century Dormitory Building

*Question of Window Replacement or Repair*

*Approach: Modeled Entire Building not just windows*

*Other Finding*

The historic building with original windows and un-insulated roof **approached or in some cases equaled or exceeded** the energy performance of “green” buildings built on campus on a per bed basis.
Sustainability and the Future of Mid Century Modern Architecture

Recent Experience with Mid 20th Century Dormitory Building

*Question of Window Replacement or Repair*

**Approach:** Modeled Entire Building not just windows

**Other Findings**
The historic building with original windows and un-insulated roof performed equal to or in some cases better than recent “green” buildings built on campus on a per bed basis.

The reason was **DENSITY**
Funding & Building Life Cycle
and the Future of Mid Century Modern Architecture

Mid-20th Century Buildings Workshop
Facility Officers Conference/ Columbus, Ga./ 26 October 2011
Building Maintenance
and the Future of Mid Century Modern Architecture

Systematic & Preventive Building Maintenance = Building Longevity

Building Longevity = Sustainability

Mid-20th Century Buildings Workshop

Facility Officers Conference/ Columbus, Ga./ 26 October 2011
Planning & Design
and the Future of Mid Century Modern Architecture
Future of Modern Architecture on USG Campus’