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Ensuring the Safety of our Institutions of Higher Learning

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Ensuring the Safety of our Institutions of Higher Learning

Deborah Mills, CFM & Jane Sibley-Frantz, CFM, AICP; Dewberry Consultants LLC
The Disaster Mitigation Act of 2000

- Amended the Robert T. Stafford Disaster Emergency Assistance Act to include pre-disaster mitigation; and

- Required state and local all-hazards mitigation plans to maintain eligibility for disaster recovery & mitigation funds; and

- Established funding mechanisms for priority projects.
Today’s Discussion Topics

- Inspire on-campus mitigation possibilities
- Challenge colleges & universities to seek mitigation opportunities
  - DRU planning
  - Relationships to emergency management, response and COOP planning
  - Mitigation projects
- How do we create campus communities that are safer and more resilient?
Why is Mitigation Important to Campus Communities?

Hazard Mitigation

...is a sustainable action that will reduce or eliminate injury to citizens, damages to structures and allow continuity of critical society functions...
Recent Virginia Disasters

- Hurricanes Camille; Agnes; Fran; Floyd; Isabel, Irene; Sandy
- Winter Storms 1979;1993;1994;2010; 2011
- The September 11, 2001 Attacks on the Pentagon
- Virginia Tech Shooting
- August, 2011 Louisa County Earthquake
- June 2012 Derechicio
VA Universities Impacted by Disasters
Disasters Impact Continuity of University Operations
DRU Concepts

• $Billions awarded *disaster assistance* to public and private U.S. universities

• Disaster Resistant University program created to support universities *to reduce and manage their vulnerability to hazards.*

• Business interruption costs thought to be >$1B
DRU Plans are led by Steering Committees

- **Facilities staff** support building assessment
- **Steering Committee** prioritizes hazards
- **Consultants or Subject Matter Experts** may be best able to assess campus buildings and infrastructure
- **Steering Committee** and University must own the plan!
Hazard Identification – Risk Analysis (HIRA)

• Structural Engineers with disaster experience evaluate priority campus buildings in partnership with campus facility managers

• Provide vulnerability analysis based on structure’s exposure to hazards

• Interactive partnership with mitigation steering committee
Why Vulnerability Analysis Matters

- Perform a Hazard ID + Risk Assessment
- Analyze campus vulnerabilities
  - Risks to persons and structures
  - Continuity of Operations
  - Societal Impacts
<table>
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<th>Natural Hazards</th>
<th>Human-Caused Hazards</th>
<th>Capability Needs</th>
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Courtesy: Dewberry
Virginia Tech

FEMA Flood Zones
- 100-Year Flood Boundary
- 500-Year Flood Boundary
Old Dominion University
Figure C-7. University of Virginia Fire Vulnerability Index
Unique Mitigation Possibilities:

- Historic Structures
- Density of Populations
- Critical Facilities
- Large Events
- Infrastructure
- Shared Resources
- Capital Improvement priorities – 4 to 6 year cycles

Christopher Wren Building
William & Mary
Second Oldest U.S. University
Why a Disaster Resistant University Plan?

• Universities are compact microcosms of society
• Large concentrations of residential areas
• Highlight campus “soft spots”
• Integrate other facility plans
  • COOP
  • Renovation
  • Expansion
  • Emergency Operations
What Keeps You Up at Night?

- Natural Hazards
- Human-Caused Hazards
  - Accident
  - Crime
  - Terrorism
- Campuses have diverse building stock that is often not to current code
- Campuses are porous
- Campuses support multiple disciples and business objectives
Priceless Buildings & Collections
Medical Campuses

- Research
- Biotech
- Trauma Med-Flights
- Hazardous Waste
- Data
Discussion Topics

• What are your major concerns?
  • What events do you think are likely to occur?
  • What specific vulnerabilities exist?
  • What specific information can you provide?
Virginia Tech Memorial, April 16, 2008
We will prevail...

We are Virginia Tech