

**UMB Resilience Subcommittee (RS)
of the Campus Sustainability Steering Committee (CSSC)**

February 1, 2017

RS Members: Anthony Consoli, Steve Deck, Mark Drymala, Robyn Gilden, Bill Joyner, Luke Mowbray
RS Advisors: Terry Morse

Resilience Definition & Strategies - Attachment A

1. **Overview-** to provide a snap shot of what the UMB Resilience Subcommittee (RS) has accomplished over the past year in order to obtain feedback (and additional volunteers) to move forward in meeting the Presidents' Climate Commitment for Resilience.

2. **Resiliency definition proposed for UMB:**

"Resilience is the ability of a system or community to survive disruption and to anticipate, adapt, and flourish in the face of change. Based on the University of Maryland, Baltimore's {UMB} geography, the nature of its built infrastructure, and regional environmental concerns, UMB anticipates having to plan for the following impacts from climate change:

- *Increase in heavy precipitation events*
- *Coastal flooding associated with sea level rise and storm surge*
- *Increases in temperature extremes*

To address these impacts UMB will focus its climate resiliency strategies on the following areas:

- A. *Flooding and Hurricane Preparedness*
- B. *Redundancy Planning*
- C. *Mitigate the Urban Heat Island Effect*
- D. *Community Resiliency Leadership Network*

UMB has developed specific strategies, rough timelines, and metrics for each above item.

3. **Explanation of Strategies "A" to "D"**

Strategy A: Flooding and Hurricane Preparedness

Objective 1: Raise underground electrical infrastructure to the greatest extent practical

Policy 1a: Identify switchgear, substations, and other campus electrical infrastructure that is nearing the end of its useful life and begin the planning process for bringing equipment above grade.

Objective 2: Assess basement sump pumps

Policy 2a: Assess the age and condition of existing sump pumps. Identify basements without existing sump pumps and either relocate utility systems *or* install new sump pumps.

Policy 2b: Develop a life cycle replacement plan for existing sump pumps.

Objective 2: Assess roof drains

Policy 2a: Assess the age and condition of existing *roof* drains.

Policy 2b: Develop a life cycle replacement of these likely with roof replacements.

Strategy B: Redundancy Planning

Objective 1: Create redundant electrical supply for the University .

Policy 1a: Build 2 new substations (Lombard and Saratoga St) that are fed by separate BGE power sources, and are independently equipped to provide adequate power to campus.

Objective 2: Build redundancy into critical campus communications systems.

Policy 2a: Provide servers in separate locations (601 W Lombard and 300 W Lexington) to create redundant facility control systems (Siemens, Johnson, Square D).

Policy 2b: Strengthen redundancy within fire alarm system through maintaining fiber cable system and backup telephone line communication.

Policy 2c: Geographically separate repeater and backup repeater for radio communications (655 W. Baltimore Street and 220 N Arch St). Objectives & policies being developed

Strategy C: Mitigate the Urban Heat Island effect on campus

Objective 1: Increase tree canopy coverage on campus

Policy 1a: Identify undersized tree pits that can be enlarged and develop an action plan for implementation.

Policy 1b: Increase the number of trees on campus by 10% in the next 5 years.

Policy 1c: Consider swapping columnar trees to species with larger canopies during lifecycle replacements.

Objective 2: Increase the amount of green space on campus

Policy 2a: Identify existing underutilized hardscape that can be converted to green space or pocket parks and develop an action plan for implementation. Incorporate the addition of *pocket parks* into campus master planning.

Objective 3: Improve the reflectivity or *cool* properties of rooftops and surface parking lots

Policy 3a: Identify rooftops on campus that could be improved with a *cool roof* strategy. Strategies could include the addition of solar panels, green roofing systems, or highly reflective paint.

Policy 3b: Identify surface parking lots on campus that could be covered with solar panels, have tree pits installed, or be replaced with permeable paving.

Strategy D: Community Resiliency Leadership Network (CRLN)

Note that below are based on Baltimore City DP3 item PS-3 and research efforts to date.

Objective 1: Identify lead contacts serving West Baltimore neighborhoods adjacent to UMB and coordinate actions to maximize safety and information sharing.

Policy 1a: Solicit recommendations for leader members from OCE, SW Partnership and other community groups.

Policy 1b: Invite these recommended community leaders to meet towards confirming their willingness to participate in this leadership network.

Objective 2: Identify and evaluate plans already in place and work to improve utilization of community based leaders to assist in preparedness and response.

Policy 2a: Research all such plans already in place at UMB and these particular neighboring communities.

Policy 2b: Evaluate their components and look for ways to coordinate efforts among these. Define the role that this community leadership network might play in emergency preparedness and response.

Objective 3: Develop a community group coordination plan & implementation guide.

Policy 3a: Based on results of earlier objectives, prepare a coordination plan and implementation guide.

Policy 3b: Create a structure of regular meetings/communication to keep this effort up to date and readily responsive when the need arises for action in the future.

4. Next steps & Action Items

A. Schedule goals for components. The following refer to the Resilience Commitment Climate Action Plan components:

- 1b Joint Campus Community Task Force- see report attachment B. Implement steps towards increasing community groups' resilience through 2017.
- 1e Complete Initial Campus Community Resilience Assessment- draft completed February 2017
- 1d Complete the CAP-R (Climate Action Plan for Resilience) -targeting mid-June 2017
- 2a/2b Annual Progress Evaluations- Obtain comments from UMB Leadership towards submitting this first annual progress report to Second Nature.

B. Next RS Meeting: will be on 2/22 2-3pm. *Additional volunteers are needed and very welcome to attend. Please contact Anthony.*