

“Greening” Greenbuild



12/11/2017

USGBC-MA

Mission Statement: *We drive sustainable and regenerative design, construction, and operation of the built environment!*

Vision Statement: *We envision a thriving and diverse community, creating a built environment of net positive systems of water and energy, of financial and social equity, and of ecological and human health.*



ALL IN

EXPO
NOV. 8-9

CONFERENCE
NOV. 8-10

BOSTON 2017
BOSTON CONVENTION & EXHIBITION CENTER

GREENBUILDEXPO.COM

30,000 Attendees



17 Hotels

RESILIENT SOLUTIONS

The Seaport District is particularly subject to considerable flooding from heavy precipitation, coastal flooding, sea level rise, and extreme heat. According to the Climate Smart™ Boston tool developed by the Trust for Public Land, the Back Bay will benefit most from implementing its "cool, absorb, protect, and connect" criteria. These solutions, described in more detail below, address the risks that threaten your organization most. These industry strategies will also provide critical mutual support and co-benefits for Boston and the Downtown district as a whole. Click [here](#) to visit the Trust for Public Land portal.

Every \$1 spent on resilient mitigation returns over \$4 of benefits. Multi-Hazard Mitigation Center (MHMC)



	COOL	ABSORBS	PROTECT	CONNECT
OVERVIEW	Utilizing green infrastructures, such as mature trees, in combination with building-scale adaptations such as cool roofing and paving materials, can reduce cooling load and utility costs for the hotel. Look for opportunities to use passive ventilation to offset cooling energy loads and to build resilience when electrical power fails.	Flood mitigation can be achieved through implementing various absorption and collection strategies. Rain catchment can be implemented to store and recycle water falling on-site. Permeable surfaces (e.g., permeable pavers, rain gardens, green roofs, permeable concrete) can allow for water to be infiltrated into the soil before it can be channeled into a potential stressed drainage system.	Where possible, protect valuable mechanical equipment from potential flooding events by elevating systems above the first floor. If relocating equipment is not feasible, seek opportunities to dry flooded rooms and/or critical equipment with temporary or permanent barriers. Wet floodproofing, where possible, is an often suitable solution for maintaining building integrity in areas that a flood poses, such as the tourist district.	Help Boston reach its goal of becoming carbon neutral by 2050 by promoting multi-modal transportation. Linking visitors with public transportation, offering discounts for rental bicycle-sharing, and by offering rental bicycles can help reduce visitors' green house gas production. Provide shower facilities for hotel staff and short- and long-term storage for guests and staff.
LEED	Paving materials that have high solar reflectance values can provide LEED credits in the urban heat island category for LEED BD+C Hospitality.	Permeable pavers and bioinfiltration can help achieve LEED points in water management. They can also be paired with other categories (e.g., open space, heat island, outdoor water use) for greater effect.	Innovation credits and new resilience pilot credits for floodproofing measures can be attained through LEED's Integrative Design section, as described here.	Focusing on multi-modal transportation networks can earn points towards Regional Priorities for the Boston area, green vehicles, reduced parking footprint, and bicycle facilities.
RESOURCES COST-GAUGE STUDIES	<ul style="list-style-type: none"> Estimate Green Roof: \$1-25 per sqft. Vegetative Green Roof: \$2-40 per sqft. Green Roof Maintenance: \$2.75-\$1.20 Low Slope Cool Roofing: Membrane \$1.70-\$2 per sqft 	<ul style="list-style-type: none"> Permeable Concrete Pavers: \$2.5-\$12 per sqft. Permeable Concrete: \$2-\$3.50 per sqft. Permeable Asphalt: \$2.50-\$2.5 per sqft. +10-15% more expensive than conventional asphalt. Bioretention: \$1.00-\$30 per sqft. 	<ul style="list-style-type: none"> Flood Shields (temporary weather barriers): \$100-200 per 3' of width. Elevating Mechanical Equipment: \$1m-\$20m depending on structure reinforcement. 	<ul style="list-style-type: none"> Case Study: <ul style="list-style-type: none"> Fidellius Hotel Link Astoria Hotel Link Claremont Center for Clerical Excellence Link Stouffville Rehabilitation Hospital Link The Greenworks by Design 2014 Building Resilience Link
RESOURCES	<ul style="list-style-type: none"> Building Resilience in Boston (Silver Practice) Link ULI Living with Water: Link Funding: Municipal Government: The Developer Link 	<p>ORGANIZATIONS</p> <ul style="list-style-type: none"> USGBC MA Chapter: www.usgbcma.org Urban Land Institute-Boston: www.uli.com/uliboston Boston Green Trust: www.bostongreentrust.org Greenovate Boston: www.greenovateboston.com Boston Green Ribbon: www.bostongreenribbon.org Linnean Solutions: http://www.linneansolutions.com Westport Design Institute: http://www.westportdesign.org A Better City: http://www.abettercity.org 	<ul style="list-style-type: none"> LINEAN Solutions GREENBUILD ARK2007 TRUST FOR PUBLIC LAND 	

Climate-Smart Cities™—Boston



Photo credit: Jerry and Marcy Monkman

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Thank you



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