



AIA Miami
A Chapter of The American Institute of Architects

Sea Level Rise Task Force

February 13, 2018

Miami 21 Zoning Code RESILIENCY WORKSHOP

The AIA Miami SLR Task Force, jointly with the Office of Resiliency and Planning and Zoning Department of the City of Miami. Organized a creative workshop on the topic of Miami 21 Zoning Code and its potential enhancements towards increased resiliency by design as to be prescribed by modifications of the Zoning Code and potential Building Code related enhancements as well.

The workshop took place at EAST Hotel Crush Ballroom, courtesy of SWIRE PROPERTIES. The space on the 39th Floor of the EAST Hotel provide a bird's eye view of the Miami Urban Core and its adjacent natural context of Biscayne Bay and the Atlantic Ocean.

SESSION FOCUS: Miami 21 Zoning Code items were reviewed in a “brainstorming” session with architects and city staff on are the following: Adaptability of ground floors for SLR, Resiliency on Flash Flood and Storm Surge stresses, question of basements, creating a relationship between flood maps and zoning criteria and strategies, incentives for developers on resiliency initiatives, innovative approaches towards water related resiliency which may include building code amendments, integration of architecture and public works infrastructure, general urban design related issues that consider future proofing our city on the concern of water capacity stresses. At this session we will not deal much with single family homes, historic buildings and general existing building resiliency which will be the FOCUS of follow up sessions. As we conclude this 1st Workshop on this topic, we will follow this up with a BUILDERS, DEVELOPERS, STAKE HOLDER, POLITICAL LEADERS in follow up sessions to get input on the results of this session.

The participants, over 30 in all, contributed with their expertise and suggestions on primarily RESILIENCY issues that will add value to our buildings, infrastructure in a mode of adapting to Climate Change related stresses that could be codified thru Zoning or Building Code and ordinances. The professional architects and planners that participated representing very active Miami architecture firms, all participated in a pro bono format with the interest of affecting how we could design a better City for a more RESILIENT FUTURE.

Items that will be discussed include:

- Architects of Resilience Program with National AIA and local SLR Task Force.
- City of Miami SLR Committee as advisory committee to City Commission.
- Office of Resiliency current action plan.
- Upcoming Storm Water Management Master Plan update.
- Infrastructure upgrades update.
- Innovations that could provide “learning and applications” to City of Miami specific contextual challenges.
- Case Study projects that may provide some learning towards Resiliency Standards applied to Miami 21.
- Mayor Suarez’s City of Miami RESILIENCY Strategy.
- What City of Miami P+Z Department is already doing to advance Resiliency enhancements to M21.
- RELi Resiliency Standards.(see attached form) This could be a guide to allow us to apply to M21.

- Context: Discussion on FLOOD MAP and areas of greater concern and its application to Zoning Regulations.
- The cost of doing nothing and the economics related to Resiliency as a design and planning challenge.
- The question of density and use of land in Coastal City of Miami.
- BIG IDEAS and MICRO adaptive strategies.
- Implementation of Resiliency Design Guidelines: City of Miami specific.
- The existing built environment vs. the FUTURE built environment that is ever expanding.
- The architects and planners role in shaping policy and adding value to the concern of Urban Resiliency.
- ULI Returns-on-Resilience

These are DRAFT notes of items that were subject of creative input and discussion between participating architects and City Staff for consideration:

- **Flexible adaptability of ground floor.** Allow for higher (taller) lower floor to allow for a progressive adaptation as sea level rises without penalties on the overall maximum height of the building. Staff mentioned the willingness to adjust requirement from 25 feet to 29 feet maximum height floor-to-floor. There will be some informative illustrations on this item that will further inform this idea of Flexible Adaptation of a variety of building types in mostly all transects of the M21 Code.
- **Basement parking.** Basement parking was regarded as a great component of urban livability since the street level is always active, attractive and lively. The type of project and its budget will determine whether underground parking is feasible. Most of the participating architects commented on the high cost of this solution, specifically in residential multi-family housing projects, however it seems to be an issue of mixed reviews, given its attractive nature from an urban design point of view allowing urban projects to place some of the required parking under street level with associated FLR bonus incentives. Basement parking has been done mostly in high profile projects but can't be justified for lower profile projects due to the high per-stall cost, as the underground structure, water management and waterproofing systems are very costly. Additional FLR incentives could help in reducing the unsightly "podiums" by providing a trade-off to the high costs of building underground in South Florida, specially close to the bodies of water. It was commented that the current incentives on basement parking should be reviewed as a more site specific solution. Also requirements on the design of basement parking shall be implemented, focussed on enforcing the basement slab / foundation / waterproofing to counteract future higher hidrostatic pressures, elevate the entrance to the basement to prevent storm surge / SLR to enter in the basement, etc... This item needs input from all participants to clarify strategy moving forward towards final recommendations.
- **Ground Floor Elevations.** New FEMA elevations will be available in about three years so, planners can make some progress by using the current FEMA elevations as reference and add a higher number of freeboard-feet based on scientific data which shows the gradual sea level rise during the next two centuries, and allow the design of resilient buildings with a component of adaptability in use, while providing a very permanent structure. The new elevations need to consider the incremental sea level rise, wave action, incremental precipitation, and storm surges. A "freeboard ordinance" for city of miami should be considered, associated with a high resolution flood map and implemented to prevent the negative consequences of delays on FEMA based flood elevation revisions and the fact that mostly, new construction may be underdesigned at the moment with current FEMA bench marks and elevation for first habitable floor requirements, putting new construction in jeopardy of flood and water damage in the future.
- **Incentives by some form of FLR bonus for resiliency.** This can be achieved by creating civil/public spaces containing natural systems to collect/retain/treat storm water, or dedicating more of the street level's square footage of the building to public space. It was pointed by Juan Mullerat that "more stringent requirements" rather than "optional / incentives" should be taken into consideration. The question of incentives for RESILIENCY criteria is to be diagloged further.

- **Formulation of RESILIENCY STRATEGIES in Special Area Plans.** The concept with this is to request that developers of SAP's provide a proactive RESILIENCY STRATEGY for City Staff to review and provide input for increased resiliency of the project's overall site plan and managing issues of flexible adaptability, base flood elevations, protection of vital equipment, future proofing the project to the degree that is feasible for the developer for City Staff evaluation and perhaps consider incentives.

We ask for input from all participants for the formulation of a final draft of this report.

Respectfully,

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