

NYU FURMAN CENTER

RETROFIT SOLUTIONS WORKSHOP



December 20, 2013

Welcome to the **Furman Center Retrofit Solutions Workshop!** For the past several months, the Furman Center for Real Estate and Urban Policy has worked closely with Enterprise Community Partners and the American Institute of Architects New York (AIANY) to identify common multifamily building types affected by Superstorm Sandy in order to explore and develop ideas for retrofitting New York City's multifamily housing stock for resilience. The workshop will focus on three actual buildings in order to generate possible design solutions and to document regulatory and financial barriers to their implementation. The results of the **Retrofit Solutions Workshop** will form the basis for a report to be released in the spring of 2014, as well as an exhibition at the Center for Architecture in the summer of 2014.

You will be working with a team of several experts including architects, engineers, elevator consultants (for our elevator buildings), energy consultants, and a drawing coordinator. We will have cost estimators, building management experts, and the managers from the building you are working on present at the Workshop, who will work with each team as needed. We have also invited representatives from HPD, DCP, DOB, and FEMA to attend the Workshop.

Each team will have a team leader, who will take responsibility for keeping the team on track during the day. Each team has also been assigned an architect who will function as a drawing coordinator and will work with the teams throughout the day to create diagrams and sketches of your proposals, and help prepare the final presentation. A list of the teams and building assignments is below.

Each team has been assigned a building in the 100-year flood zone, at risk due to future climate events. Your task at the Workshop is to explore options for large-scale, innovative resiliency plans, and to identify the constraints to implementation. The buildings are all subsidized, affordable housing, so in developing retrofit solutions we encourage you to be as creative as possible, while aware of the city regulations and financial barriers that may make such proposals prohibitive. We also want to explore the implications of the current requirements under the National Flood Insurance Program. To guide the day, we have matched each building with a type of retrofit we expect your team to investigate. These suggestions are not meant to be limitations, but rather starting points for fruitful conversations and design. The Workshop will conclude with a presentation of your team's solutions.

Goals

- Create detailed implementation plan for the assigned retrofit that considers the most cost-effective way to create long-term protection against future climate threats.

- Create diagrams, architectural sketches, brief written descriptions, or whatever else might be needed to clearly illustrate and communicate the implementation steps to a non-design professional.
- Identify and catalogue barriers to implementation that you uncover during your work (cost, zoning regulations, building code, insurance requirements, other).
- Consider implication for the building's cash flow. For example, if the retrofit results in a reduction in the number of units, are there ways to replace the lost units? If so, what are the costs and what are the barriers to doing this?
- Consider implementation (including barriers to implementation) of other retrofits that might be a better cost-effective solution for protecting your assigned building.
- Consider energy-efficient retrofits that the building might consider implementing concurrently with the resiliency retrofits.

We are thrilled that you will be joining us on **Saturday, January 11th, from 9:00 am to 6:30 pm**. The day will include a continental breakfast and coffee, lunch, and a cocktail hour. We will also provide all of the materials you will need to support your process, including trace and sketch paper, pens, pencils, etc. In the packet that follows, you will find the team assignments, an agenda for the day, the information we have collected about your building, and a memo on the proposed retrofit. If you have any questions or have requests for other information that would be useful, please do not hesitate to contact me.

Thank you again for volunteering your time for this important project. We look forward to seeing you in January!

Sincerely,

Jessica Yager

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FURMAN CENTER RETROFIT SOLUTIONS WORKSHOP AGENDA

Saturday, January 11, 2014

Rudin Forum, 2nd Floor

Puck Building, 295 Lafayette Street, New York, NY

INTRODUCTION

9:00am-9:10am: Welcome Remarks*

9:10am-9:45am: Workshop Orientation

WORKING SESSION

9:45am-12:30pm: Group work

12:30pm-12:40pm: Team 1 Presentation to Floater Panel*

12:40pm-12:50pm: Team 2 Presentation to Floater Panel

12:50pm-1:00pm: Team 3 Presentation to Floater Panel

1:00pm-2:30pm: Expert Consultations

Each team will have the opportunity to consult with experts from DCP and HPD, a cost estimator, representatives of the case study buildings, and others during this time.

2:30pm-4:00pm: Finalize Work and Compose Presentation

PRESENTATIONS

4:00pm-4:30pm: Presentation & Discussion – Team 1

4:30pm-5:00pm: Presentation & Discussion – Team 2

5:00pm-5:30pm: Presentation & Discussion – Team 3

RECEPTION

5:30pm-6:30pm: Concluding Remarks and Cocktail Hour

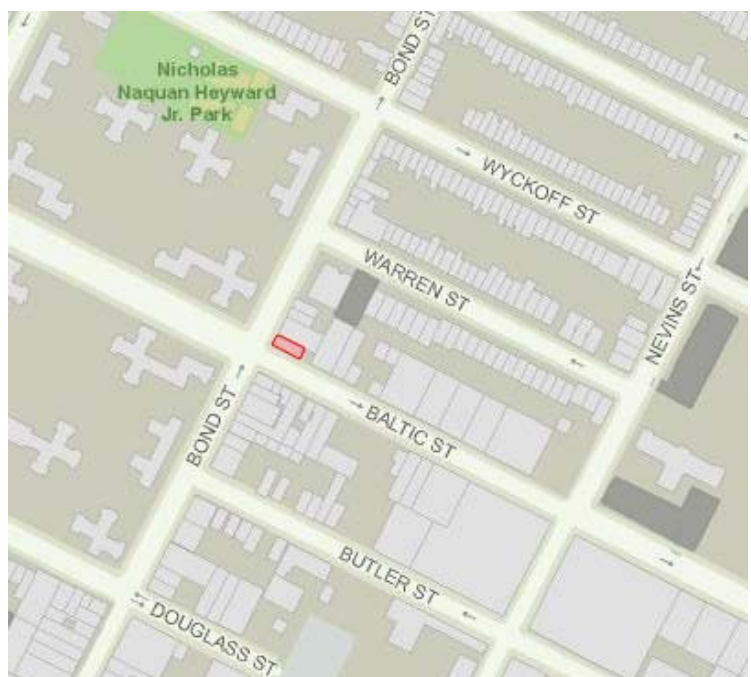
*Breakfast and coffee will be available at the start of the day. Lunch will be provided during the midday presentations.

BUILDING SUMMARY: 445 Baltic Street, Brooklyn, NY 11217

| | |
|---------------------------|------------------------|
| Landlord | Fifth Avenue Committee |
| Owner | South Brooklyn Mutual |
| BBL | BK-399-1 |
| Residential Units | 5 |
| Stories | 4 |
| Basement | YES |
| Structure Type | Brick |
| Elevator | No; Walk Up |
| Year Built | 1900 |
| Year Altered | 1997 |
| Zoning | R6 |
| Subsidy | LIHTC |
| Subsidy Start Year | 1998 |
| Evacuation Zone | 2 |



During Super Storm Sandy, this property underwent severe flooding in the basement that went up to the level of the ceiling, causing damage to the electrical equipment and generator. Much of the flooding came from the neighboring building, where water was unable to escape, and flowed directly into this property's basement. Although the damaged equipment has now been replaced and repaired, the equipment remains in the same location, below the flood elevation, and in risk of damage in future crisis. The basement is only accessible through an exterior hatch.



TEAM 2

Building: 445 Baltic Street

Suggested Retrofit: Wet Flood Proofing

Team 2 has been assigned 445 Baltic Street, an attached walk-up building in Park Slope/Gowanus. More information about the property is included in this packet. For this property, we are asking your team to explore **wet flood proofing** as a retrofit option. 445 Baltic Street has an open yard on the east side of the lot. We encourage your team to explore landscape design retrofit options for this property as well, such as storm water management systems that enhance ground water infiltration. Utilities should either be moved above the flood elevation or made waterproof.

While we ask that the team address our proposed retrofit, you are also encouraged to explore other ideas that you think might be more appropriate for your building, as well as to consider energy improvements that would ideally be implemented in conjunction with the resilience retrofit.

Wet flood proofing allows water to run in and out of the buildings, i.e., through flood vents. In wet flood proofing, pressure is equalized on either side of the building, thereby causing less structural damage. In order for a wet flood proof retrofit to be successful, all building systems must be elevated out of the area that is planned for flooding. Ideally, this will be achieved without a loss of units at 445 Baltic Street. If units are lost, options for replacing lost units and the implications of this should be considered.