

CITY COUNCIL
CITY OF NEW YORK

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TRANSCRIPT OF THE MINUTES

of the

COMMITTEE ON HOUSING AND BUILDINGS

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January 22, 2013
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HELD AT: Council Chambers
City Hall

B E F O R E:
ERIC MARTIN DILAN
Chairperson

COUNCIL MEMBERS:

Gale Brewer
Leroy G. Comrie, Jr.
Elizabeth Crowley
Lewis A. Fidler
James F. Gennaro
Robert Jackson
Letitia James
Brad S. Lander
Melissa Mark-Viverito
Rosie Mendez
Joel Rivera
Jumaane D. Williams
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A P P E A R A N C E S

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Mona Siegel
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Ashley Cotton
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Mike Slattery
Real Estate Board of New York

Jordan Isenstadt
Deputy Director
Association for a Better New York

Stewart O'Brien
Executive Director
Plumbing Foundation of New York

A P P E A R A N C E S (CONTINUED)

John J. Murphy
Business Manager
Plumbers Local Union No. 1

Arthur Klock
Director of Training
Plumbers' Local Union Number 1 Trade Education Fund

John Villafane
Member
New York Electric Contractor's Association

Patrick Dolan
President
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Executive Vice President
Mechanical Contractors Association of New York

Richard Roberts
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Steamfitters Local 638

Bertha Lewis
Founder and President
The Black Institute

Ismene Speliotis
Executive Director
MHANY Management Mutual Housing Association of New
York

Skipp Roseboro
New York Communities for Change

Joseph Kaming
Cement League

A P P E A R A N C E S (CONTINUED)

Terrence Moore

Treasurer

Local 46 Metal Lathers and Iron Workers

CHAIRPERSON DILAN: --the hearing begins. If anyone has a cellphone, if they could either shut it off or put it on silent mode, and once the hearing begins, which should be in a few short minutes, if there is a need for a private conversation if it could happen outside of the committee room. Until we start obviously, the same level of conversation is acceptable. We are just waiting for my attorney to come with a few documents that we need, and then once she comes back, we will begin right away. By the way, if anyone that is testifying on today's agenda item, if you haven't seen the Sergeant-at-Arms to fill out an appearance card, please see the Sergeant at Arms now, and fill out an appearance card. It's the only way I will know that you intend to speak before the committee.

[long pause]

CHAIRPERSON DILAN: Good morning everyone. I'd like to call this hearing to order. My name is Erik Martin Dilan, and I am the chairperson of the City Council's Committee on Housing and Buildings. Today the committee will meet to conduct an oversight hearing on modular

building and the future of prefabricated construction practices in the city of New York.

As you all know or may know, modular building is a construction method that consists of sections of a building or modules being constructed offsite in a controlled facility and then transported to the building site where they are placed onto a foundation using a crane to attach to each other or by other methods. The United States modular construction methods have been used for decades by developers mostly for low rise commercial buildings such as healthcare facilities, college dorms, manufacturing buildings and due to recent technological breakthroughs in engineering modular construction methods for high rise and larger scale construction projects are beginning to come to New York City and may become more common.

Today we look forward to hear testimony from the construction trades, from real estate professionals, modular manufacturers, design professionals regarding their experience in modular construction methods. We also look forward to hearing from the Department of Buildings regarding their methods for overseeing

and regulating modular construction, and in particular from the Department of Buildings we are interested in learning more about how the Department of Buildings regulates fabricated items that may be assembled in other jurisdictions and brought into the city of New York how DOB maintains quality control over the work completed in modular construction factories, and how approved fabricators authorized to do this work without special inspections differ from those fabricators, which must undergo special inspections in accordance with the New York City Building Code. Recently high rise development has become more prevalent in Europe. I think it's a good thing that the city of New York and the United States in general are starting to catch up, and on the low rise side certainly I see a tremendous opportunity for individuals to choose this type of construction to help rebuild after the aftermath of Hurricane Sandy, so we think this is a tremendous opportunity for the city of New York. In the Council's history, there has never been a single hearing on modular construction, so we certainly would like to know how this industry

works and how the Department regulates it, what's the potential positive economic impact and what the affordability of these units are going forward. In general these are the questions that we look to get answers to today and I'm pretty sure that we will learn a lot throughout this hearing about this particular type of building. We have been joined by Council Member Lew Fidler of Brooklyn, and seated to my right is the counsel to my committee, Laura Rogers and immediately to her right is counsel to the committee, Edward Atkins. We have been joined by the Buildings Department. We have First Deputy Commissioner with us, Mr. Thomas Fariello. Mr. Fariello, welcome, and you can take the liberty to introduce the lovely lady sitting beside you and you can begin your testimony.

FIRST DEPUTY COMMISSIONER FARIELLO:

Good morning, Chairman Dilan and members of the Committee. My name is Thomas Fariello. I am the first deputy commissioner of the Department of Buildings, and I have with me Mona Siegel, the Department's general counsel. Thank you for allowing me an opportunity to testify on this

issue. To better understand the subject of this hearing, I would like to start what we understand is as prefabrication means. Prefabrication is the process of designing and assembling components offsite in a factory prior to bringing the assembled item to install at a construction site. There are many items that may come to a construction site having been prefabricated. Some common items are structural steel members, air conditioning units, vacuum pumps, boilers, and prefabricated modular units, which are then installed onto the site where the structural and utility connections are made to the building. For context, boilers are prefabricated items that contain plumbing components and are built offsite prior to coming to a construction site. The boiler has to meet technical requirements that are in our construction codes, which include nationally recognized standards. The onsite installation must be performed according to the Department's administrative and technical requirements. Our code was adopted from the ICC family of codes, which allows for assemblies manufactured offsite. The Department provides a

process for the approval of new materials and alternative engineered designs or methods of construction so long as they are safe and effective as to what is in our code. For example, the Department approved the use of a prefabricated vacuum pump module as part of an engineered sanitary drainage system. This vacuum pump was constructed offsite, much like a boiler. The Department through our Office of Technical Certification and Research, we call OTCR, established technical standards are quality control inspection requirements to ensure that the module meets the technical standards for our codes. The Department approves prefabricated modular units for larger residential buildings much in the same way. Prefabricated modular units are structures designed or constructed in one or more sections for installation on a permanent foundation at a construction site. Through our OTCR unit, the Department is requiring qualified in shop monitors for assembly work to assure the prefabricated modular units comply with the technical requirements of the administrative code. Furthermore, one and two family manufactured homes

approved through the state have installed throughout the city and once onsite they must also meet the Department's code requirements for installation and connection to all utilities. In summary, the Department as regulator of construction, city of New York must approve items including prefabricated modular units that are compliant with the requirements of our code. I'd like to thank you, and we'd be happy to answer any questions you may have.

CHAIRPERSON DILAN: I appreciate you coming to testify this morning. It was a very short opening and talked more about systems than actual construction and certainly you have to look after systems, but as it relates to buildings itself, do you know how many at this point, how prevalent is modular construction in the city, whether it be a high rise or low rise? I know there are not that many high rise at this juncture and I'm aware of at least one modular project in my district, the supportive housing project, but how many permits have the Department issued at this juncture for low rise residential?

FIRST DEPUTY COMMISSIONER FARIELLO:

Well, in the testimony, I tried to make the point that a building itself is made up of a number of modular units, prefabricated items, and that is what makes up the building, right? And so if we are just going to take about residential apartments, I can give you the numbers. We have a number of--there's like Spring Creek. There was a number of one or two family large scale residential developments--horizontally large scale, but not vertically large scale, so we don't have that many on the high rise--

CHAIRPERSON DILAN: No, no, just high rise or low rise. I assume at this point that there aren't that many high rise. This is one notable high rise project that is going on, but the fact that the majority of the construction in this format has been low rise, do you have a number of permitted projects on the low rise side, and then the follow up to that is what differs--once I get that answer--what differs in the permitting process on a modular unit versus a traditionally constructed unit?

FIRST DEPUTY COMMISSIONER FARIELLO:
I can get you the numbers of all the units that we

1 have. I don't have that with me.

2 CHAIRPERSON DILAN: If you could
3 get that to the Committee in terms of how many—

4 FIRST DEPUTY COMMISSIONER FARIELLO:
5 [interposing] I could break it to low rise and how
6 many stories they are.

7 CHAIRPERSON DILAN: The more
8 detailed the better. Certainly.

9 FIRST DEPUTY COMMISSIONER FARIELLO:
10 Okay. So the permitting process is very similar
11 to what you do for a normal building. You would
12 submit your plans of the finished—what is proposed
13 to be the finished product, alright, and on plans
14 signed and sealed by the architects and engineers,
15 and then the contractor would come in and do the
16 permit. Now when they do come and they indicate
17 to us that it is going to be a modular unit and
18 they are going to be built offsite, right, so just
19 the general assumption by us is that you are going
20 to use the standard process. You would have
21 licensees, plumbers, elections, fire suppression
22 folks do all of that, wherever you are building
23 these modular units. That is the assumption from
24 us. Now we do have a path where someone could
25

1
2 build something offsite and we could approve that.
3 That is through our OTCR unit, and that is how we
4 go through that on a site specific basis for each
5 building.

6 CHAIRPERSON DILAN: Okay so your
7 assumption on the licensees is an assumption that
8 it is still a requirement for modular or is it not
9 a requirement?

10 FIRST DEPUTY COMMISSIONER FARIELLO:
11 Well, unless they come to us and say that they are
12 going to build it offsite, so when we issue plans
13 everything for the most part the vast majority of
14 our projects are built onsite, right, and so until
15 they come to us, right, and tell us that they are
16 going to build it offsite, we are going to assume
17 that you are going to do it onsite, so...

18 CHAIRPERSON DILAN: Okay, that's
19 fine. From your interpretation for modular they
20 are still required to have the licensed
21 professionals whether they build it onsite or
22 offsite as a traditional unit? I just want to
23 understand what you perceive the law to be.

24 FIRST DEPUTY COMMISSIONER FARIELLO:
25 [interposing] No - - I wasn't clear enough. So

the definitions in the code say that you need a licensee for work that is performed in the building.

CHAIRPERSON DILAN: Could you repeat it again, sir? I think my question is clear. I believe my question is clear. So I just want to know your interpretation on these units. I think we both know for traditional construction you have to hire the licensed professionals and you assume that when the plans come to you that they have hired license professionals, so would they be in fact also be required to hire licensed professionals just as any other traditional project that was built onsite?

MONA SIEGEL: Good morning, Chairman Dilan. Mona Siegel, Department of Buildings. Just to add on a little bit to what First Deputy Commissioner Fariello just said, the work that is done offsite not on a construction site, not on the job site, has several options. You don't have to do it through a licensed plumber, electrician, et cetera. There are options that we have in our code that allow for alternative methods that you have to come to us

1 and let us know what you are going to do, what
2 your plan is, and there have to be certain quality
3 assurances that you provide to us, and if those
4 quality assurances are quality controls, quality
5 assurances, with respect to inspections,
6 monitoring that work, then as long as you have
7 fairly robust quality controls, you can go ahead
8 and do that work offsite and there isn't a
9 requirement for a licensee to do the work. The
10 licensee's requirements kick in when the work is
11 installed at the job site and there, you do need
12 the licensee to ensure that the installations are
13 done correctly, the connections are done
14 correctly, but offsite it is more of a different
15 method. If you choose to as the applicant, owner,
16 developer go that route, that is available and
17 that is again, to assure to us that you have
18 quality control measures offsite, but we are—and
19 that is something that we would want in writing.

21 CHAIRPERSON DILAN: Okay, so that
22 is something that is a little bit different. I'm
23 not saying that it's right or wrong, but just a
24 little bit different than the traditional onsite
25 practice.

MONA SIEGEL: Yes.

CHAIRPERSON DILAN: Could you walk us through some of the offsite quality control measures that you seek from somebody who is constructing offsite in a prefabricated manner?

MONA SIEGEL: Okay, one of the items for example we would require is certainly an assurance that someone and who that someone is we might want to know is monitoring the work, so that monitoring of work could be done by—and again, the applicant would have to provide to us who that individual might be—someone monitoring the work to assure or someone certifying that the work is in compliance with our technical standards. It's not that the work is being done by anyone in particular but that at the end of it, someone is certifying to DOB that the work complies with DOB's technical standards, and that could be a New York State licensed engineer, a New York State licensed architect, and that is generally who we look to to assure that sort of information.

CHAIRPERSON DILAN: Being that the fact that a lot of these prefabricated sites may be outside of the state of New York, what type of

license credentials do you look for and just the first part of that question if you could answer this part first just to your answer, where is that set out exactly? Is that set out in the building code, is that set out by a rule or is that set out in a special bulletin—that requirement?

FIRST DEPUTY COMMISSIONER FARIELLO:

Okay, so that is set out in our OTCR approval section of the code, so you would submit into us, you'd tell us your plan, how you are going to assure this quality assurance, and then we would review it, make comments and approve it, and at the end if we approve it, then we issue a site specific approval for your plan. Right? So that is set out in that section of the code.

CHAIRPERSON DILAN: And what about—

we know that there is a bulletin out that gives some sort of guidance on this. Can you just explain to us what is in that bulletin and what type of guidance that it gives to the—

FIRST DEPUTY COMMISSIONER FARIELLO:

[interposing] Sure, it's the approved fabricator bulletin, so it's totally different question—so you had asked the question about the licensee

licensed engineer. How do we deal with professionals who are licensed outside of the state of New York, which is possible in this scenario. Do we have any—

FIRST DEPUTY COMMISSIONER FARIELLO:

[interposing] We would require that the person regardless of where they are would be licensed in New York state, so the idea is that the professional that is there understands the New York state rules, just as we would allow that engineer to file another building in this city, we rely on that person, so that — connection to our—

CHAIRPERSON DILAN: [interposing] I

would assume you do the same on a traditional job or does that even come into—it probably doesn't even come into play at all, does it?

FIRST DEPUTY COMMISSIONER FARIELLO:

We wouldn't accept plans from someone that is licensed outside of New York.

CHAIRPERSON DILAN: Outside of New

York. Okay. Got it. Which is good. So now how does the Department of Buildings ensure that modules built offsite comply with the construction

codes? How do we--of course they submit plans. I assume that they self-certify these plans, but what type of assurances do you have that these people are doing construction with our codes?

FIRST DEPUTY COMMISSIONER FARIELLO:

Well, - - we have a process. You are correct in one of the options is for the professional to self-certify the plans, so that part is a kind of standard way to file plans to get them approved through us. Alright? And so on the site specific approval from the OTCR unit, again, you are going to outline your process of how you are going to assure to Department of Buildings that the work that is coming out of that factor is going to meet our code. Now our code is since we have done it in '08 recognizes--and is very strong code, and recognizes many national standards that are throughout the country, so we rely on those. There is a whole process to get nationally recognized standards for your work anyway, so we rely on that, and then we also rely on the quality assurance program that you have in your factory, and each one needs to be certified to us.

CHAIRPERSON DILAN: Okay, and how

many modular fabricators has the Department approved since the issuance of the bulletin?

FIRST DEPUTY COMMISSIONER FARIELLO:

- - . We have three of them. I could tell you I think all three of them are low rise, low scale, probably one or two family—I could tell you what they did. I can get back to you.

CHAIRPERSON DILAN: Do you know where they are located, and what are the benefits of being in an approved fabricator by the Department?

FIRST DEPUTY COMMISSIONER FARIELLO:

So I have the—the three of them I have one is in New Jersey, one is Pennsylvania and the other one is in Brooklyn.

CHAIRPERSON DILAN: Okay, and—

FIRST DEPUTY COMMISSIONER FARIELLO:

So what the approved fabricator allows you to do—so if you were building modular units in your factory and you were shipping to the site, we would require that as you would for a building that was built onsite have the list of special inspections and at the end of the job, we collect all those special inspections from the licensed

1
2 engineer or the registered architect outlining
3 that this work complies with the code, right? So
4 in the code references what you are supposed to do
5 or references a national testing that you are
6 supposed to follow, and then at the end we collect
7 those special inspection reports and that tells us
8 that it meets the code by the person onsite, so
9 through the approved fabricator bulletin is a
10 process where you would not submit it at each
11 site, but you would have now you have a quality
12 assurance agency that monitors how you do things
13 in the beginning and then does audits as a follow
14 up, and then they would certify to us that the
15 process that you are using in the factory meets
16 those special inspections.

17 CHAIRPERSON DILAN: So that being
18 said, how many modular fabricators that build in
19 the city that are not approved by the Department
20 and therefore have to undergo these special
21 inspections?

22 FIRST DEPUTY COMMISSIONER FARIELLO:
23 I'd have to get you that number. I don't know.
24 It's probably a little tough for us. I know who
25 these three are 'cause they have come to us, so I

guess I could just subtract it. I can get back to you.

CHAIRPERSON DILAN: Okay. I don't quite—I guess 'cause this special inspection's provision is also drawn out in the code, we'd also like to know where these fabricators are located, and if you could tell us just in general now, what does a special inspection on the non-approved fabricators entail?

FIRST DEPUTY COMMISSIONER FARIELLO: There are various ones—I think there is about 38 of them—I'm not sure exactly the number--special inspections that are done, so in the beginning there are subgrade, there is concrete testing, as you get taller in the building there is steel welding, fire stopping—there is various ones—ventilation inspections. There is various testings that happen along the way.

CHAIRPERSON DILAN: Okay, and how would that differ from traditional construction? Would it—

FIRST DEPUTY COMMISSIONER FARIELLO: [interposing] No, this is traditional would be the same.

CHAIRPERSON DILAN: Would be the same.

FIRST DEPUTY COMMISSIONER FARIELLO:
So if you were not an approved fabricator and you're a modular builder, you would be doing those inspections in the factor for each unit that comes out.

CHAIRPERSON DILAN: Which I think is good. So look, I think there is certainly some things you need to get back to us on because frankly I see this as an option for housing construction that will be available, both low rise and high rise, and could potentially be the future. How prepared do you feel the agency is to handle the task of this different type of housing, particularly as it relates to the high rise construction because I think that is more of the future because of some of the inherent affordability that may be there. How prepared to you believe at this juncture—and it's okay to not be prepared—but in light of this being the future, it would be good to get prepared, but at this juncture, how prepared do you think the Buildings Department is to oversee the high rise

construction process of these units?

FIRST DEPUTY COMMISSIONER FARIELLO:

Well, I think we are prepared with this whole process, and we may have to ramp up our folks as we get more and more of these approvals coming to us, but as the work is ongoing, especially for a high rise, we have a high rise unit that are going to monitor all high rises going up, and they would continue to do that in this process. They are going to have to—we are going to have to have them relate to the now it's coming in a box, and it's coming off a crane, but as opposed to being built with steel from a crane and that sort of stuff, but I think we are well suited.

CHAIRPERSON DILAN: Okay. So on the high rise, you said there was no approved fabricator on the high rise, so then to assume that any high rise project would go the special inspection route at this juncture?

FIRST DEPUTY COMMISSIONER FARIELLO:
Right, the one high rise project that we have—

CHAIRPERSON DILAN: [interposing]
Well, this one or any other one - - .

[crosstalk]

FIRST DEPUTY COMMISSIONER FARIELLO:

We have no other one.

CHAIRPERSON DILAN: At this time

you have no other one.

FIRST DEPUTY COMMISSIONER FARIELLO:

We assume that that is going to go through the special inspections until they come to us.

CHAIRPERSON DILAN: Until such time

as a fabricator comes forward. Okay. So I just

wanted to make that clear. At this point I am

going to turn—oh, we have been joined by Council

Member Brad Lander of Brooklyn. I am going to

turn to Council Member Fidler for questions, and

then if Council Member Lander has any, he can slip

in. Council Member Fidler?

COUNCIL MEMBER FIDLER: Thank you,

Mr. Chairman. I have to say that all of this—I'm

a real novice to all of this. I'm looking at the

audience. I am sure there are about 70 people out

there that know more about modular building and

construction than I could ever hope to learn. My

construction experience is limited to a couple of

toys I had when I was a kid. I know one of them

was an erector set that used little steel beams.

COUNCIL MEMBER FIDLER: Okay.

Let's talk about those three things for a second so I can understand what the issue is. I can guess the speed, right, 'cause if you have multiple locations you can build more than one story at a time, I guess and I imagine it doesn't take as much time to lay them on top of each other and connect them. Is that what you mean by speed?

FIRST DEPUTY COMMISSIONER FARIELLO:

Yeah, well, so you are doing two tasks at once in the beginning, and then you are coming in and the Chairman said, a crane is lifting it and putting it in place, and they are bolting it together and making the connections between the units.

COUNCIL MEMBER FIDLER: Why would there be better quality control?

FIRST DEPUTY COMMISSIONER FARIELLO:

It would be that the part that is coming from the box is being done in a controlled environment, so like today it's 20 degrees outside, and you are trying to build these units. There you are in a factor in 70 degrees or whatever temperature is in there.

COUNCIL MEMBER FIDLER: so by

quality control, you are really talking about the quality control component that is in the hands of the manufacturer not of the Buildings Department?

FIRST DEPUTY COMMISSIONER FARIELLO:

Well, that's why you said the developer. I was answering the question why a developer would do it.

COUNCIL MEMBER FILDER: Well, but I understand that, but is that--what I just said to you--is that correct, you are referring to not the oversight of the project by the government agency, but by the developer or the contract himself?

FIRST DEPUTY COMMISSIONER FARIELLO:

Right.

COUNCIL MEMBER FIDLER: Okay. What are the cost savings?

FIRST DEPUTY COMMISSIONER FARIELLO:

Well, I'm not a developer, and I don't deal with the cost, but I said it, if you are making it somewhere else, and you are building it, and you are shipping it, I guess that is where you are going to have the savings is that the labor you are using somewhere else, the factory is making it over and over again, and then you are just

shipping it to the site as opposed to shipping all the materials and then assembling them onsite.

COUNCIL MEMBER FIDLER: So the labor savings by doing it offsite are greater than the costs of trucking from wherever it is and then putting it on top of the crane?

FIRST DEPUTY COMMISSIONER FARIELLO: That is my understanding. Yes.

COUNCIL MEMBER FIDLER: Your understanding has got to be better than mine because I know nothing about this. That is why I am asking these questions. I imagine some folks out there may testify after you may have more knowledge, but you are the lead so...

FIRST DEPUTY COMMISSIONER FARIELLO: Well, I think they would have the better knowledge.

COUNCIL MEMBER FIDLER: So let me then tell you what concerns me from my lay point of view when I was building the old erector set stuff, the higher up I built, the more concerned I was about—I didn't know the word then—the structural integrity of what I was building, so given the fact that we are now looking at our

1 first high rise, I'm not so worried about the
2 structural integrity of the low rises, and if God
3 forbid, something happens to a low rise, it's not
4 such a calamity. Well, it's a calamity for the
5 owner, whatever, but for everyone within two miles
6 around it. What can you tell us about the
7 structural integrity of modular construction as it
8 starts to get higher and higher, and I understand
9 that we are now looking at the highest modular
10 building I think in the world, I think if I read
11 the briefing papers correctly, exceeding the last
12 one by seven stories. You know, what research has
13 the Buildings Department done about that? Do you
14 have an opinion as to whether or not there is
15 greater structural integrity of such a structure,
16 lesser, it makes no difference? Enlighten me.

18 FIRST DEPUTY COMMISSIONER FARIELLO:

19 This was a concern of ours on the one project that
20 we have and so what we did is we had a structural
21 engineer do what is called a peer review, so we
22 had another engineer that we approved to do a
23 review of the first engineer's work, and then they
24 certified that the engineering that was done
25 initially was going to be able to withstand all

the loads and all the requirements of our code, so the design itself is going to be able to meet our code.

COUNCIL MEMBER FIDLER: Well, you know, and with all due respect to an engineer analyzing loads that is all theoretical I guess because we only have limited real world experience with the actual construction. Is that correct?

FIRST DEPUTY COMMISSIONER FARIELLO: Right, but this construction, the structural system that they are using is not that far off from what has been used in other buildings.

COUNCIL MEMBER FIDLER: What do you mean by that? Not that far off?

FIRST DEPUTY COMMISSIONER FARIELLO: Well, I mean you are stacking boxes, but each box becomes its own little structural frame, and when you attach them all together you get one large frame, and that is very similar to what we do for structural steel buildings today.

COUNCIL MEMBER FIDLER: I realize some of these questions may seem incredibly naïve, but compare the risk for me of what happens if a modular unit for some reason isn't properly

attached as opposed to the same type of mistake made in a non-modular building?

FIRST DEPUTY COMMISSIONER FARIELLO:

Right, and so just as we said in the approved fabricator world you are relieved of the special inspections that happen in the factory if you choose that route, right? Once it comes onsite, you are bound by all the laws that we have, so a licensee is onsite. Okay, and then all of the special inspections need to be done on those connections, so all of those connections are being monitored by a professional engineer.

COUNCIL MEMBER FIDLER: I

understand, but that wasn't the question I asked. I'm asking about what is the consequences of a mistake? Are there different consequences through a mistake in a modular unit not being properly attached as opposed to any other connection in a regular—

FIRST DEPUTY COMMISSIONER FARIELLO:

[interposing] They are every similar. The connections have been designed to handle all of the loads, and it's not like they were saying I didn't know that you were going to have an

apartment in this box. They designed it for the real world situations they have there, and then there is a whole redundancy in their design—that's traditional and structural design.

COUNCIL MEMBER FIDLER: We have learned that sometimes - - things happen once every 100 years. Have we looked at the structural integrity of these buildings say in an earthquake?

FIRST DEPUTY COMMISSIONER FARIELLO: Right, when you analyze the structural design for a building, you design it for earthquake, for wind, and if you are in a flood zone, for the flood. Right? And so, you analyze all of that and you take the most restrictive one and you design it accordingly, and that is what has been done here.

COUNCIL MEMBER FIDLER: Now let's again—I apologize because this question is ridiculous, but I am trying to understand the issue here or any issues that—to me, the most important issue of all is the structural integrity of the building because affects everybody. If God forbid there was a calamity and a building were to fail, would a modular construction building fail

1
2 in a different way than a non-modular construction
3 building? In order words, what would happen if
4 there was a problem with the structural integrity
5 of the building, an event occurred and a building
6 were to collapse. Would a modular building
7 collapse differently?

8 FIRST DEPUTY COMMISSIONER FARIELLO:

9 I mean they are all required, including the
10 modular and the traditional construction, are
11 required to follow the code and resist the
12 progressive collapse, so it is being designed the
13 same as a traditional high rise would have been
14 designed, so to withstand and prevent the
15 progressive collapse, so I don't see them from
16 structurally being different than a traditional
17 high rise. I mean frame is different, and it is
18 boxes on boxes as opposed to a bigger box, but
19 other than that, it is very similar in the
20 concept.

21 COUNCIL MEMBER FIDLER: So if I
22 were to sum up what I'm getting from your
23 testimony is you believe that once they are built,
24 they are the same?

25 FIRST DEPUTY COMMISSIONER FARIELLO:

The same—they are going to withstand the loads of—
yes.

COUNCIL MEMBER FIDLER: Okay.
Thank you.

CHAIRPERSON DILAN: Thank you,
Council member Fidler. Council Member Lander?

COUNCIL MEMBER LANDER: Thank you
much, Mr. Chairman and thank you, Mr. Fariello,
for being here. I'm going to follow up on some of
the questions from my colleagues. I am glad we
are having this hearing. I want to say thank you
for it. You know the evolution of new technology
is very important. I'm enthusiastic for the
opportunity to have ones that reduce costs, that
are safe, that continue to provide good job
opportunities so that we are—and I like that we
are doing something in New York City for the first
time, but it is very important that we evolve our
regulatory oversight and inspection methods along
with those technologies to make sure that we are
ready. That is why I am glad we are having this
hearing, but I want to be a little more confident
than some of what I have just heard—in particular
this sort of quite short testimony, and I think

one of the challenges for us as Council Member Fidler identifies is we are not engineers and yet we need to have confidence that our professionals have done the work and can communicate that certainty to us in appropriate ways, and what is the line between professionals and legislators isn't always easy, but I have to tell you for starters that I want something more than this three page testimony to make me confident that the Buildings Department of the City of New York has looked at the question of the safety of high rise modular construction as currently presented to us by b2 [phonetic] , but as I agree will be an issue for years and years to come. This isn't about B2. This isn't about Forest City [phonetic]. This is about the evolution of new technology and I want to be confident that from an engineering point of view that engineering review that you talked about has been done in a way that I can see, and at least someone helps translate for me and makes heads or tails so I am confident it was done in a way that gives us the regulatory framework that we need that helps us understand the engineering, and that the process we have in place going forward is

adequate to this very significant evolution in technology. I have some more specific questions, but I guess I wouldn't mind you responding to that. It seems to me we are at the moment of a significant evolution in technology and that it is reasonable for us to want a more compelling clarity that our professionals believe it's safe and sound, that engineers have looked at it in a way that can give the council confidence, and that our processes for that over time are being updated and kept in sync with this very significant evolution in technology in the city.

FIRST DEPUTY COMMISSIONER FARIELLO:

I know the testimony we have heard that it's short a couple times. We just had a topic that we were going off of—

COUNCIL MEMBER LANDER:

[interposing] It's less to me about today's hearing, and more to me about this—your testimony for example, doesn't refer to any way to that second engineering review that you have given to B2 specifically but obviously relates for example to the structural issues more generally. Could you provide the Council with a useful version or

oversight of that? We are not engineers. We can't read the technical report, but I would like if you could provide us with something in writing that helps us understand what the additional engineering review you did of B2 was, and that says whether it's officially over your seal or at least just over your office, the New York City Department of Buildings has done a thorough review of the engineering questions raised by high rise modular, either as presented specifically in B2 or generically, and is confident that it meets our structural requirements, so that we--could you provide us with something of that type?

FIRST DEPUTY COMMISSIONER FARIELLO:

We can do that.

COUNCIL MEMBER LANDER: That would be great because again, I have the same lego and erector set experiences as Council Members Fidler, but I want to be able to say to the people in my district our professionals have really thoroughly looked at this, and have confidence that it is safe. One erector set and lego question that I have, which maybe I should ask someone else, but I will say as I understand it there is some

1 difference and this relates to the difference
2 between low rise modular and high rise modular
3 between thinking of it as essentially stacking
4 boxes on top of each other and having sufficient
5 structural report so that they link and form a
6 frame and doing something that might be described
7 more as building a structural frame and sliding
8 units into it, so that the structural supports in
9 low rise modular really is that the structural
10 system as I understand it is coming from the
11 offsite assembled components in at least some
12 versions of high rise modular as I understand it
13 the structural frame is still being built much
14 more conventionally and what is being done is that
15 modular units are being inserted with the full
16 acknowledgement that I am sounding like a fool to
17 the engineers in the room. Can you help me
18 understand whether that is true and whether it
19 matters and how you think about the structural
20 stability of the buildings?

22 FIRST DEPUTY COMMISSIONER FARIELLO:

23 In the low rise and high rise it's a similar idea
24 is that the box itself is the frame, is the
25 structure is going to support the one up above and

all imposed loads from the wind, the rain, the snow, the earthquake, right, all those loads that are on it. And the high rise I guess is a little different between it's a structural steel frame as opposed to the other one, which is not the big structural steel, it's cause the weights are less and all of that so, they are within the walls and that kind of stuff, similarly as you build a stick building the low rise has less loads and stuff like that, so it's the high rise that has this cage around it, so the cage comes and when you connect them that makes the frame. The concepts between the low rise and the high rise structurally aren't that far off from each other. The materials are different, and the loads are much higher on the high rise.

COUNCIL MEMBER LANDER: Okay, so I thank you for that. I guess it takes me back to my earlier question of looking forward to seeing something that gives me confidence that the professionals have looked at this, have done the relevant kind of earthquake questions and wind questions and have really looked at it, so just one or two more questions about sort of where we

are in terms of the current rule. As I understand it, the rule that you referred to before is temporary—the one that was issued in 2011, and went along with the rulemaking process that is supposed to lead to a final rule. Am I right about that?

FIRST DEPUTY COMMISSIONER FARIELLO:

Yes, we didn't get to the rules yet, but the bulletin is what we have been using.

COUNCIL MEMBER LANDER: So we currently have a temporary bulletin and you are in the process of developing a rule. Do you have some sense of when the rule will be promulgated?

FIRST DEPUTY COMMISSIONER FARIELLO:

I can get back to you.

COUNCIL MEMBER LANDER: Will the rule address look differently or more thoroughly at possibility of high rise modular and so the relevant questions in terms of you--you might be thinking different if you have a fabricator that is building high rises versus building low rise?

FIRST DEPUTY COMMISSIONER FARIELLO:

When the bulletin was created there was no one contemplated high rise to us, so as we evolve a as

Department and as new idea comes to us, new projects, we are certainly going to have that in mind.

COUNCIIL MEMBER LANDER: I just want sure we get there, so if it turns out we learn from this hearing is we need additional resources so that the Buildings Department can do this that we may have to speak to City Hall about it. It's fair enough that when you were budgeting last year maybe you weren't in this position, but we have to get there now, so we need a final rule in place that does contemplate high rise modules to make sure you have the folks in place that you need to do it and so some of that - - Buildings Department does exist and some of it is about providing the resources. To that end so where you don't have this fabricator license in place you have these special inspectors, and as you say the B2 will be built you imagine at least with a special inspector. Can you tell me a little bit more about who they are and what their qualifications are?

FIRST DEPUTY COMMISSIONER FARIELLO:
Special inspections, as I said there is 38 of them

1
2 or somewhere around that number, and so varying
3 requirements for who can submit those special
4 inspections and do those inspections in site, so
5 anything structural is an engineer. You couldn't
6 even be I'm a registered architect. I'm not
7 qualified enough to do those items, and there are
8 other items where a registered architect is
9 qualified as well as the licensed professional
10 engineer, and then there are other items, more
11 plumbing nature where a licensed plumber can do
12 some of those special inspections - - . For the
13 most part it's a licensed professional engineer
14 that can do all of them. They are the most
15 qualified, so that is the folks we are talking
16 about--New York State license.

17 COUNCIL MEMBER LANDER: Is the
18 person who would be an appropriate special
19 inspector for high rise modular for B2 in this
20 case, do they need anything beyond that? Do they
21 need some training and expertise beyond what a
22 normal licensed professional engineer would need
23 to be able to do the inspections that are
24 required?

25 FIRST DEPUTY COMMISSIONER FARIELLO:

1
2 Yeah, just because you are a licensed engineer,
3 you would need a structural background. We have a
4 whole special inspection agency process, which is
5 another bulletin, so we have that in place and
6 that outlines the qualifications that are needed
7 within your licensee world to do certain special
8 inspections. You couldn't have a mechanical
9 engineer whose licensed do the structural
10 inspection.

11 COUNCIL MEMBER LANDER: Has that
12 bulletin been adapted to describe what is needed
13 for a special inspector looking at high rise
14 modular construction?

15 FIRST DEPUTY COMMISSIONER FARIELLO:
16 It addresses all construction throughout the city,
17 so including the tallest buildings in the city and
18 the smallest, right, so it's all of them. There
19 are certain exemptions for the one or two family
20 house, so that kind of takes them out, so that if
21 you are someone who is building smaller buildings,
22 you don't need to hire the--

23 COUNCIL MEMBER LANDER:
24 [interposing] But if that was developed prior to
25 when we were anticipating high rise modular

1
2 construction, it seems possible that there be
3 things one would want of a special inspector in
4 this high rise modular construction that you would
5 want to make sure they had and knew before you
6 said alright, that is an adequate special
7 inspector for this.

8 FIRST DEPUTY COMMISSIONER FARIELLO:

9 So when we did the - - , when we adopted the ICC
10 family of codes we are on a code revision cycle
11 and so as we keep revising the code, so right now
12 we are in the middle of revising the current code,
13 and so we hope to be done by the end of this year
14 or the summer actually, so we keep evolving our
15 codes and so does ICC. They keep evolving, so ICC
16 different projects come up and new technologies,
17 new items, they revise their revisions and we take
18 a look at all of those, and then we look at
19 specific things that happen in our city and also
20 events that happen where else; there's earthquakes
21 that happen in Japan, we look at what happened
22 there, and if we need to, we adapt our code
23 accordingly.

24 CHAIRPERSON LANDER: Let me ask you
25 then to maybe provide us by writing because I

don't want to sort of make an individual the subject of this conversation, but I guess I would also like to see the qualifications of the special inspector for B2, so that we could have confidence that that person has the qualifications needed to provide the inspections of this quite new thing that again, maybe most licensed professional engineers would be ready to do, but I would feel better being confident that the person that is doing that is somebody that we had looked at and made sure had the professional qualifications to do it, and then the very last thing, and I appreciate the Chair's indulgences is that the current bulletin speaks only very little to the questions of installation, and that makes sense in some ways. What we are talking about is fabrication, and so it focuses more on how to know what is going on in the factory is up to code, is up to speed, is safe and sound. We certainly want that, but again, at least as I understand it, intuitively questions of installation would matter more in high rise modular than they might in low rise modular for some of the reasons that Council Member Fidler spoke to, Making sure that the way

in which the modular components are installed onsite, and they are very very little spoken to in the bulletin, and so I guess I wonder is that something that is being looked at for either the final rule, so what the bulletin basically says is things have to be installed in the way the fabricator tells you, and obviously that makes sense, and yet making sure that actually happens and somebody's job it is to see it and sign off on it and certify it and that is done with whatever attention is needed to making sure that the different issues that arise as a result of it being modular construction are attended to onsite at installation. Maybe you can tell me that that doesn't need anything special because it's just what would have happened in any case with construction engineering, but I would at least like to understand whether—the question is sort of the moment of installation is important to be attended to and any way that is different from what we are currently doing as well.

FIRST DEPUTY COMMISSIONER FARIELLO:

Right, so the bulletin again addresses the special inspections that happen, and that is what you get

1 relief from when you become the approved
2 fabricator, and so the quality assurance and who
3 is onsite doing that that is what we rely on for
4 these inspections as opposed to who is doing the
5 work, right, so the bulletin, as we said earlier
6 we assume that the licensee is going to be doing
7 the work regardless of where you are doing the
8 work until you come to us and tell us something
9 different, and we approve that. That requires a
10 whole new set of in shop monitors and how you are
11 doing and how you are going to assure the quality
12 of the work, so the quality assurance that is in
13 the bulletin is all about what would normally have
14 happened by the special inspector, so that is what
15 that is about—less about who is doing the work.

17 COUNCIL MEMBER LANDER: And that
18 special inspector might be onsite for installation
19 'cause I understood that as someone who would be
20 in the factory looking at fabrications—

21 FIRST DEPUTY COMMISSIONER FARIELLO:
22 Right, so the approved fabricator is a special
23 inspection that would normally if it was built
24 onsite, happen onsite, but because it is being
25 built in the factory, it is going to happen in the

factor, right, and so that is what would happen, and then once all of that stuff comes onsite, any special inspection that is required to be done would be done onsite by the special inspector. There is no way to get out of that.

COUNCIL MEMBER LANDER: Okay, so then that just related to my question earlier about making sure that those special inspectors have the relevant training experience that may need to address any differences in installation of modular that are different from what they have traditionally been looking at in New York City which has been steel frame high rise, but not modular construction, so I guess I'd ask if you could just look at that as well, and get back to us in writing and help us have confidence that the special inspectors who are looking both in the factor and onsite for installation that have the required training and experience that they need. So I'm done with my questions, but I just want to reiterate what I said at the beginning it's fair that this is a moment of significant technological change. I think that is a good thing, but for us to make sure that our regulatory and professional

agency has the resources, experiences, skills that it needs I something that we have to have more confidence of and I hope we can work together for you to provide some of that information to us in writing as a follow up to the hearing. Thank you, and if you need more resources to be able to do that to let the Chair know and let us know, and we will push for that as we go forward. Thank you, Mr. Chairman, for your indulgence.

CHAIRPERSON DILAN: Thank you, Council Member Lander. I would just say the applications should dictate whether we throw more resources to this or not, but I will then turn to Council Member Ulrich of Queens.

COUNCIL MEMBER ULRICH: Thank you—

CHAIRPERSON DILAN: [interposing]
I'm sorry. Before we begin we have also been joined by Council Member Viverito of Manhattan. Council Member Ulrich.

COUNCIL MEMBER ULRICH: Thank you, Mr. Chairman. I apologize. I was a bit late. I did have a chance to review the committee report, and also the Commissioner's testimony, and actually I want to thank you, Commissioner, for

1 coming. You and I had spoken on the phone on
2 Friday. Ironically about the ability of people of
3 Breezy Point, where I represent my district, many
4 homes burned down, flooded out, some people have
5 expressed an interest in prefabricated homes, and
6 here we are today talking about modular
7 development in New York City, but particularly
8 high rise development. I have a number of
9 concerns regarding safety--

11 CHAIRPERSON DILAN: - - .

12 COUNCIL MEMBER ULRICH: Well,
13 that's true. That's true. Thank you, Mr.
14 Chairman. So I think that all of our questions
15 and concerns and as your testimony has been
16 related to is primary concern of mine safety, and
17 I think that is what people are really concerned
18 about that New York City does not have currently--I
19 mean is that correct? We don't have high rise
20 developments that have been--

21 FIRST DEPUTY COMMISSIONER FARIELLO:
22 [interposing] No, we don't.

23 COUNCIL MEMBER ULRICH: --
24 prefabricated. So we don't have it here. I mean
25 they have it in other cities, in other places

1
2 throughout the world I'm sure. They are large
3 scale development, but New York City currently
4 does not have—

5 FIRST DEPUTY COMMISSIONER FARIELLO:
6 [interposing] Right. Currently this is the first
7 one proposed.

8 COUNCIL MEMBER ULRICH: So New York
9 City is very unique for many reasons, Building
10 Congress submitted testimony stating that
11 prefabricated homes or skyscrapers would be good
12 because New York City has the highest construction
13 cost in the country, but we know from this
14 committee through our oversight hearings looking
15 at HPD that when we do affordable housing
16 sometimes when a developer says he is going to
17 save money by doing things a certain way that in
18 the long run, it actually costs more money through
19 maintenance and repairs, so prefabricated high
20 rise developments may seem like a good idea on
21 paper, but in the long run if we don't know enough
22 about it, it may actually cost us more money, so I
23 mean that is the first thing, but around safety—
24 New York City has a very interesting climate when
25 compared to other cities—maybe they have

1 prefabricated developments in Miami in the Middle
2 East or Eurasia, but New York City we have—today
3 it's 20 degrees, tomorrow it could be 60 degrees.
4 That has a big impact on the structural integrity
5 of a building and how buildings are developed.
6 One of the questions I have though and am
7 concerned about, we talked a great deal about
8 approved fabricators and professional engineers
9 and what they would be able to potentially sign
10 off on, what about plumbing? Could plumbing work
11 be installed or done or approved by someone who is
12 not a licensed plumber in a prefabricated high
13 rise development potentially?

14
15 FIRST DEPUTY COMMISSIONER FARIELLO:

16 Okay, soon a site specific approval—I don't know
17 if you were here for the beginning, but through
18 an OTCR approval from us for your site specific as
19 long as when you come into us and show us how the
20 quality of the work that is being done in the
21 factor is going to meet the New York City
22 construction codes, alright, and how it is going
23 to be monitored and how you are going to certify
24 it, all the work is done in accordance with our
25 codes, the answer is yes, you can do it without a

licensed master plumber.

COUNCIL MEMBER ULRICH: And how do you verify that information?

FIRST DEPUTY COMMISSIONER FARIELLO: We verify right through the certification process. That is how we verify.

COUNCIL MEMBER ULRICH: You're an architect. Would someone be able to self-certify that it has been done, would someone be able to just sign a piece of paper to say yes, everything was done up to code, and these parts were manufactured the right way, and they were installed right way, and this boiler is up to code, and we are just going to have a developer subcontractor work and just install it in the building, and you are going to take that person's word for it? That is what I am concerned about. In Queens it is a very controversial issue. I'm not trying to delve into self-certification. I'm not getting into that, but what I'm saying is that what I am concerned about is a developer comes along, he says I am going to buy this piece of property. I have these partners. We are going to build this high rise development. We are going to

have Co-Ops and condos and we are going to put affordable housing in it. We are going to have retail space on the ground floor, but we are going to do prefab and we are going to save a ton of money, and I am going to have all my architects and engineers sign off that everything is up to code, and the things is just going to go up, and then five or ten years later, God forbid, there is a problem and because we don't know enough about it, about how it went up, how things were installed, how things were made because we didn't go that extra step to verify that these things were in fact up to code and we didn't have a licensed plumber sign off on these things. Just using that as an example that we are going to have problems in the long run and you are going to have lots of developers coming into New York City saying I'm going to circumvent the whole building code by doing this prefab because I'm just going to have the approved fabricator, my engineers and my architects sign off on everything, ship everything in, piece it together like a bunch of legos and that is it—move people in. I'm concerned about safety. I'm not concerned about

1 anything else. I just think that is a dangerous
2 precedent because knowing developers and knowing
3 what they have done to Queens, and I can only
4 speak for Queens, I don't know about other parts
5 of the city. Bunch of these guys will come in,
6 make as much money as they can and then go back to
7 New Jersey, the Hamptons, wherever they are
8 living, and they don't give a damn five or ten
9 years later. I have to care about what happens
10 five or ten years later. You as a city official
11 and as a Commissioner at the Department of
12 Buildings have to, and so I think this really
13 needs to be looked at, and I don't think that we
14 can necessarily just take people's word for it,
15 especially when we don't have the experts in the
16 field who know the most about these areas, whether
17 it be a licensed electrician, licensed plumber
18 looking at these things and approving these things
19 before we turn the switch on.

21 FIRST DEPUTY COMMISSIONER FARIELLO:

22 So the guy in the factory gets the approval for
23 his site, okay-

24 COUNCIL MEMBER ULRICH:

25 [interposing] But what happens if the factory is

in another state?

FIRST DEPUTY COMMISSIONER FARIELLO:

Right, so he is in another state or he is somewhere else in the country, right?

COUNCIL MEMBER ULRICH: He is in

Kentucky. I am a developer. I want to buy boilers and I want to buy switches and I want to buy pipes and I want to buy everything—gas lines—I'm in Kentucky. Kentucky does not have the same standards that New York has, right?

FIRST DEPUTY COMMISSIONER FARIELLO:

Well, he still has to meet the same standards that we have for—

COUNCIL MEMBER ULRICH: But how do

you know that? How does the Buildings Department know that?

FIRST DEPUTY COMMISSIONER FARIELLO:

So they would present to us their in shop monitors, how they are going to monitor the work, alright, and then we are going to have it inspected by a New York State engineer, okay, in their factory.

COUNCIL MEMBER ULRICH: So the

engineer is going to go to Kentucky?

FIRST DEPUTY COMMISSIONER FARIELLO:

Yeah. Or he is going to live in Kentucky and be licensed in New York state--

COUNCIL MEMBER ULRICH:

[interposing] How do you know--is he just signing a piece of paper that says I went to Kentucky and I

--

[crosstalk]

FIRST DEPUTY COMMISSIONER FARIELLO:

He is going to submit the certification for each module, right, and so I do have a lot more--I don't have the give the next approval, right. It's a site specific approval, so if we find out that they are not complying with our codes, right, well, then I don't even have to go and revoke. I just don't approve the next one, right? And then he has got this big factory and he has got this big pool of work that could be in New York City, and he is going to be out of luck. Right? So he has got a lot more to lose than other places.

COUNCIL MEMBER ULRICH: I know that the Buildings Department is understaffed and that you don't have enough money in your budget to do the type of background investigation that you'd

1
2 like to do, and if you had to personally visit
3 every single construction site in the city, I know
4 you do and inspect every part and make sure
5 everything is then up to code, we would be a much
6 safer city. I understand that that is not the
7 case, but I have a big problem with these blanket
8 approvals and these blanket statements where the
9 rules apply to some people, but they don't apply
10 to others. I mean also, we—

11 COUNCIL MEMBER ULRICH:

12 [interposing] If I want to build a home in a
13 traditional way and I hired a licensed plumber or
14 plumbing contractor to come in and run the gas
15 lines and hook up the bathrooms and do all of
16 these things, he would have to sign off on the
17 project. A licensed plumber would have to do
18 that, but in a modular home, a licensed plumber
19 you're saying potentially does not have to sign
20 off on that.

21 MONA SIEGEL: I think there is—if I
22 may add—

23 COUNCIL MEMBER ULRICH:

24 [interposing] A plumbing inspector rather. I'm
25 sorry.

MONA SIEGEL: If I may add to Commissioner Fariello's testimony that was already given is that there is really sort of a two step idea. Things constructed offsite has a process, and we believe that process is robust right now—

CHAIRPERSON DILAN: [interposing]
Could you speak more directly?

MONA SIEGEL: What it seems to me is just to clarify there is sort of a two step process. One is the offsite work that is happening and that is as Commissioner Fariello mentioned in a controlled environment. They are subject to meeting the Department's standards—very high standards of technical compliance, and we need certifications that that work is done. That applies to boilers. It applies to vacuum pumps. It applies to these boxes of modular units now that we are looking at. Whatever it is, those items have to have quality assurances and quality controls in place. Clearly we can't be out there all over the country inspecting every module that is constructed. In fact modules come into buildings all the time and again, they may be on a smaller scale granted when we are talking about—

1
2 for example, vacuum pumps, these massive units
3 that deal with drainage and HVAC systems and the
4 like, but then when it's onsite, we have our codes
5 that comply 100%. We have responsibilities that
6 are on the contractors, on the engineers, the
7 architects, hire rise buildings that are built
8 here are subject to again, the full panoply of
9 requirements that are in our codes, so we do rely
10 on certified certifications of the state
11 licensees, engineers, architects. In addition,
12 connections that are going to be made to utilities
13 to gas lines, to sewer systems, all of that will
14 require licensed plumbers to ensure to us to
15 certify to us that the work was done properly and
16 the same thing would go for the electrical
17 connections, so onsite, that work has to be
18 subject to the same process that everything is
19 subject to—

20 COUNCIL MEMBER ULRICH:

21 [interposing} I apologize for interrupting you.
22 There is no questioning the integrity of how work
23 is performed onsite because I believe that most
24 people of good faith to the best of their ability
25 try to do it the safest possible way. Our

1 primarily concern about the work that is being
2 performed offsite, and I have a hard time
3 believing that if I'm a developer and I'm ordering
4 pre-fabricated units or parts, and they are coming
5 from California that inspectors or professionals
6 from New York are going to go to California to
7 check what is going on in the factor there, okay?
8 And that is just the reality. It's dollars and
9 cents. Developers want to make money. They want
10 to make as much money as they can, and if they can
11 circumvent hiring another licensed professional or
12 circumvent a rule that is going to save them
13 money, they are going to do it 'cause that is what
14 they do, in New York City and in New York and
15 probably everywhere else, and I don't see how we
16 are—I just think that we are opening the door
17 here, and it's kind of dangerous because look,
18 this administration has been very thorough in
19 making sure that cranes and skyscrapers and things
20 are done the right away, but this administration
21 is coming to a close December 31st, and who knows
22 who the next mayor is going to be, who the next
23 billings commissioner is going to be. I just
24 don't want to open that door right now to this
25

1
2 type of development and then we find out five or
3 ten years from now that it was a big mistake, and
4 it's too late to do anything about it. And that
5 will be governed in part by who is running the
6 Buildings Department. I just think that if we
7 have one set of rules that they ought to apply to
8 everybody and they ought to apply the same. If
9 somebody is building a tradition skyscraper or if
10 I'm building a 20 story building in Long Island
11 City, and it's mixed use, that I have to follow
12 the same code, the same rules and hire the same
13 people as some other developer wants to come in
14 and just piece things together.

15 FIRST DEPUTY COMMISSIONER FARIELLO:

16 Well I think the point that Mona was trying to
17 make on a small scale you have - - , Jacuzzi tub
18 has plumbing piping around it, has some electric
19 motors, has a pump, right? So if you look at it
20 in its minutiae detail, that is plumbing work,
21 that is electrical work. Those if you were to do
22 them onsite are required to be done by a licensee,
23 right, and so our code, which is coming from an
24 international code now, right, has many national
25 standards in it, and so the work that is being

done in Kentucky or whatever state are not going to be that far off from New York City, so yes, we have our requirements. We are a very unique city. No one is as dense as we are, and we have special rules, but we are not that far off from—I mean that Jacuzzi tub comes out of - - Wisconsin, right? They are not being done by the plumber.

CHAIRPERSON DILAN: I am going to have to stop you at this point and move on to Council Member Crowley.

COUNCIL MEMBER CROWLEY: Thank you to our Chair. I apologize for being late. I didn't hear your testimony or many of the prior questions—was stuck at an even in my district; however, I have a few brief questions. You just mentioned Kentucky, how their codes may be similar to New York. I have never been to Kentucky. But I know that there is no other city like New York, and particularly as vertical as we are. I chair the Fire Committee on the City Council, so I have some concerns as it relates to these modular buildings, especially those that are high rises. Do we have any that are under construction right now in New York City?

FIRST DEPUTY COMMISSIONER FARIELLO:

We just have one.

COUNCIL MEMBER CROWLEY: First?

FIRST DEPUTY COMMISSIONER FARIELLO:

First modular high rise.

COUNCIL MEMBER CROWLEY: Are there any other modular high rises in the Northeast?

FIRST DEPUTY COMMISSIONER FARIELLO:

No, the only--the closest to this height I believe is in England.

COUNCIL MEMBER CROWLEY: And when you say modular, how much of the operating system within the building is prefabricated?

FIRST DEPUTY COMMISSIONER FARIELLO:

Well, these are modular units that are going to be stacked up and create the structural frame, and then this happens to be a residential at least for the upper portion is residential, and so--

COUNCIL MEMBER CROWLEY:

[interposing] And so like the fire suppression equipment like sprinkler system, would that be done offsite in another location?

FIRST DEPUTY COMMISSIONER FARIELLO:

Portions of them that are within the module would

be done in the factor. The connections made between the two--the connections to the street, the main, so if it's just fire alarm--

COUNCIL MEMBER CROWLEY: But isn't it city code that those types of systems have to be built here in the city under a licensed plumber, licensed by the city and the state?

FIRST DEPUTY COMMISSIONER FARIELLO: No, when the work is constructed in the city, in the building, they would have to be done by the licensee.

COUNCIL MEMBER CROWLEY: Do we have any laws right now that pertain to modular construction?

FIRST DEPUTY COMMISSIONER FARIELLO: It's just general building, which includes modular and non-modular construction.

COUNCIL MEMBER CROWLEY: But how can we assure the citizens in the city of New York that those buildings are safe if we don't know that those systems were built under a licensed plumber within those--those fire suppression units or the process of bringing gas to a unit, I get worried about the safety as we all are as Council

Members that these modular constructed buildings will be legally safe, and it doesn't seem that the Department—your testimony was very short. Have you taken that into consideration?

FIRST DEPUTY COMMISSIONER FARIELLO:

Yes, we outlined the whole process of how they are going to have in shop monitors, how they are going to assure that the quality of the work is done to meet the New York City construction codes. That is when we gave the approval based on what they proposed to us of how they are going to ensure this quality of the word.

COUNCIL MEMBER CROWLEY: At what

point does a licensed plumbed or a steam fitter come in there and look at the equipment in the building?

FIRST DEPUTY COMMISSIONER FARIELLO:

Once the work is brought onsite, that is when it becomes the licensee, so the connection between the modules, any work that is done say it is a service, or any work that is done onsite at the building is to be done by the licensee, so the entire system, right, is not done in the factory portions for that particular module are done in

the factory. The connections between the two are done onsite by the licensee. The connections to the utility service or in the street are done by the licensee.

COUNCIL MEMBER CROWLEY: And have you been watching closely the construction of this modular building?

FIRST DEPUTY COMMISSIONER FARIELLO: Yes. As we do all high rise buildings, we have a team that goes out there periodically to monitor the work and see what is going on.

COUNCIL MEMBER CROWLEY: Would you believe that it would—like the wear and tear of a building over a period of time in New York City given our climate and extreme temperature change, do you think that—we have a unique situation in New York, and how would we be able to truly understand the lifespan of such a modular building if we don't even have—if we are going up—did you say it was a 30 story building in Brooklyn? Do we even have five story modular buildings?

FIRST DEPUTY COMMISSIONER FARIELLO: I can check. I don't know how high—

COUNCIL MEMBER CROWLEY:

[interposing] I don't think they are legal in the city. As far as I know I heard that the only modular buildings that we have had here have only been two or three stories.

FIRST DEPUTY COMMISSIONER FARIELLO:
I don't know what you mean by illegal. They are legal to be built—

[crosstalk]

COUNCIL MEMBER CROWLEY: --such a large modular building in the city when we don't even have examples of smaller ones that have existed and have been safe and tested in time.

FIRST DEPUTY COMMISSIONER FARIELLO:
There are many examples of five story modular buildings outside of New York City.

COUNCIL MEMBER CROWLEY: I have no other questions.

CHAIRPERSON DILAN: Thank you, Council Member Crowley. At this juncture what I have to do in deference to time, and I see some members looking to get my attention. I just have two brief follow ups, and then we have gone on about an hour and a half with the Buildings Department, and we will start to bring the public

in, so just my two brief and succinct questions are: can the Department right now tell us what their differentiation is on the permitting process as to what they consider high rise and what they consider low rise? So what is the cut off? At what floor is it considered now a high rise? The second question is we have heard everything that you have had to say about the licensed professionals. Some members have varying opinions, but in your opinion, what do you believe the licensed professionals—do you believe licensed professionals who did not install the work will have confidence in signing off on work that was done by someone else? Do you think that they would be willing to sign off on those type of jobs?

FIRST DEPUTY COMMISSIONER FARIELLO:

We are only asking that the licensed master plumber or electrician sign off on the work that they do, so the connections between the two, the main connection into the building, but say it's a water system, right?

CHAIRPERSON DILAN: [interposing]

Alright, so that's fine. Just to be brief, so

1
2 they only have to sign off on the work that they
3 performed, and they won't be held responsible for
4 the work that they did not perform, so that I
5 think may give them some comfort. And then the
6 second part of the question was at what point do
7 you consider a modular unit a high rise? After
8 what floor?

9 FIRST DEPUTY COMMISSIONER FARIELLO:
10 A high rise in general for all buildings in the
11 city is 75 feet and taller.

12 CHAIRPERSON DILAN: So you would
13 use the same criteria?

14 FIRST DEPUTY COMMISSIONER FARIELLO:
15 Yeah.

16 CHAIRPERSON DILAN: Thank you.
17 Thank you very much. We have been joined by some
18 members—Council Member Tish James, Council Member
19 Viverito. Because the project is in Tish James'
20 district, if you have questions for Buildings I
21 will allow it, but if you don't have questions for
22 Buildings, I'll allow you to go first for the next
23 panel, which is the manufacturers. It's your
24 choice.

25 COUNCIL MEMBER JAMES: I have

questions for Buildings.

CHAIRPERSON DILAN: Council Member James.

COUNCIL MEMBER JAMES: As was stated this modular building is in my district, and as you know, I had serious concerns with regards to the overall project from day one, and recognized that the developer in question had reneged on a number of promises to the community, and now he has reneged on promises to the development community as well, but more important than that, I am just concerned about the safety of this modular district, which is at the crossroads of Brooklyn at Flatbush and Atlantic Avenue, and so my question, and I was never consulted in regards to this modular building. In fact, I only read about it in the New York Post, and so my question to you is to what extent have we taken into consideration fire safety, material conductivity, element - - , durability, replacement, repair, and overall general safety. What if anything has been done to improve upon the code and to what extent can we ensure that this modular unit, which it will be above—how many

units will it be? How many stories will it be?

FIRST DEPUTY COMMISSIONER FARIELLO:

I believe it's 30 stories.

COUNCIL MEMBER JAMES: 30 stories.

33 stories. It's 32. How can we assure that this 32 story structure in Brooklyn, which is really an experiment, an experiment in my district, will be safe for the residents in the building and for the residents in the community.

FIRST DEPUTY COMMISSIONER FARIELLO:

So through our OTCR approval, we are requiring that there are monitors in their factory—are going to monitor the work and assure compliance with all of the New York City construction codes. We are going to have special inspectors that are there. We are going to have in shop monitors to monitor the work in the factory, and again, once it comes to the site, it is going to be done—the connections and all of the utility connections are going to be done by the licensee.

COUNCIL MEMBER JAMES: So what is so special about these inspectors?

FIRST DEPUTY COMMISSIONER FARIELLO:

What is so special about them - - ?

[crosstalk]

COUNCIL MEMBER JAMES: Why are they special?

FIRST DEPUTY COMMISSIONER FARIELLO:
Well, they are going to be New York State licensed PEs, professional engineers, that understand and have passed the test in this state and are permitted to do all types of buildings in this state including New York City.

COUNCIL MEMBER JAMES:
[interposing] I guess—I'm sorry to interrupt you, but I guess my question is are these inspectors uniquely qualified to deal with modular construction in the city and state? Was there something that—some sort of training that they received that made them uniquely qualified to deal with modular construction, and if so, what was that?

FIRST DEPUTY COMMISSIONER FARIELLO:
They are going to be New York State professional engineers. They are going to be monitoring—

COUNCIL MEMBER JAMES:
[interposing] But how are they different from any other engineers?

MONA SIEGEL: Special inspections, just let me clarify, refers to a list of inspections that are required pursuant to the building code, and it involves specific items, so special inspections involve structural steel inspections, welding inspections, that can be done by an entity called a special inspector, who is generally the state licensed engineer or architect, so these are people that are qualified as a matter of course to do these kinds of inspections that they have been doing for more than just this one project. This is just inherent in our code-requirements for special inspections, so-

COUNCIL MEMBER JAMES:

[interposing] The modular construction is inherent in our code?

MONA SIEGEL: The requirement that it meet the standards that are already in our code is there already. It doesn't apply any differently. The standards are technical standards that govern high rise construction that is on the site versus construction that is offsite. They are going to be similar in that you

1
2 have to ensure to us--somebody has to tell us,
3 somebody has to certify to us that the work that
4 is being done offsite meets the technical
5 requirements--

6 COUNCIL MEMBER JAMES:

7 [interposing] Now you said someone has to certify
8 to you--

9 MONA SIEGEL: Right. Those are the
10 people that do business with the Department.

11 COUNCIL MEMBER JAMES: And do they
12 engage in self-certification where they certify
13 themselves and submit the information to you?

14 MONA SIEGEL: These are state
15 licensed architects and engineers, and when you
16 say self-certification, it is whatever process
17 applies for high rise construction, so we do have
18 units that are--we do have special provisions. We
19 do look at high rise construction a little bit
20 differently when they come to the site, so those
21 generally as Tom mentioned, have our high rise
22 unit, we go out, we do inspections, but on top of
23 that, the work has to be certified offsite by
24 state licensed individuals who do business with
25 us, and onsite by - - licensed individuals--

COUNCIL MEMBER JAMES:

[interposing] Let me just say—

MONA SIEGEL: --subject to additional inspections.

COUNCIL MEMBER JAMES: Thank you.

I apologize for being late, and I thank the chairman for allowing me, and I know the hour is late, and I know the public would like to testify, but I am obviously just very concerned given that the climate change, given all of the storms that we have recently experienced, I am really concerned about whether or not this modular housing will withstand the test of time. In addition to that I am also concerned because as you know in my district we have had a number of building collapses as a result of laborers working who obviously were not trained, were not part of the professional unions that tend to do things safely and tend to do things timely and on budget, and we have had a couple of deaths. In my district I have had at least the last count was five day laborers who died as a result of a shoddy construction and construction by individuals who were not part of any unionized workforce, and I am

1 obviously very much concerned with respect to this
2 project, and I hope that the City Council will be
3 enacting some legislation either I hope that the
4 City Council will do it, and I hope that the State
5 of New York obviously looks at modular
6 construction because it concerns me greatly that
7 this project notwithstanding the original promises
8 was supposed to be built union, and now there is
9 less union members being employed there, and it's
10 being built modularly fabricated, and I believe
11 inconsistent with the building code. I thank you,
12 Mr. Chairman.

14 CHAIRPERSON DILAN: Thank you,
15 Council Member James. Thank you, Commissioner
16 Fariello for your time and for your testimony. We
17 certainly hope that the Buildings Department will
18 continue to look at this matter. I do have just
19 some housekeeping. We have been joined by Council
20 Members Mendez and Brewer as well as Council
21 Member Jackson. Thanks for your time and your
22 testimony, and next we will hear from some of the
23 manufacturers. We will hear from William McShane
24 from Capsys Corp. I believe this is David
25 Farnsworth from - - , Ashley Cotton from Forest

City Ratner as well as Mike Slattery from REBNY. If those individuals could come forward, and if you have any testimony, you can give it to the Sergeant at Arms, and he will give it to the members.

[background conversation]

CHAIRPERSON DILAN: Okay, so we will hold you to the next panel. Do you prefer to be—

FEMALE VOICE: [interposing] No, no, no. We will go now, but I just—

CHAIRPERSON DILAN: Well, there might not be enough room for all of you guys up here.

[background conversation]

CHAIRPERSON DILAN: Not necessarily. We want to hear... Tish might. Tish has had plenty of meetings - - you guys.

[background conversation]

CHAIRPERSON DILAN: If we could just have the chamber come to order for a second. There is a misunderstanding in the way the cards were filled out. We will have Forest City and its group come now, and then the next panel will

consist of Capsys, and REBNY. That is the way we will do it. I'd like to put you guys all there together, but we just don't have the space to do it.

[pause]

CHAIRPERSON DILAN: Sergeant, there has been a change. Let's hold off. I guess you could put it down REBNY and Capsys will come next, so this will be the Forest City presentation that the members should be getting. Alright, so we should have Forest City and its four members plus Mr. David Farnsworth. Is that what we have? Okay, so it's just three?

FEMALE VOICE: Well, it's three Forest City and then - - consultant.

CHAIRPERSON DILAN: Go it. Alright, if we could just bring this hearing back to order. If I understand the technology is in place that you need for--yes, it is? Okay. Even though I have introduced you, if you could all introduce yourselves in your own voice and then you can begin your testimony.

ASHLEY COTTON: I'm Ashley Cotton. I run external affairs for Forest City Ratner.

MELISSA BURCH: Melissa Burch,
senior vice president for development at Forest
City Ratner.

BOB SANNA: Bob Sanna, executive
vice president for design, development and
construction at Forest City Ratner.

DAVID FARNSWORTH: David
Farnsworth, principal and structural engineer at
Arup.

ASHLEY COTTON: Thank you,
Chairman, and thank you for accommodating us. We
just want to make sure we can give a full
presentation and do this as the team, and thanks
for accommodating our presentation. Obviously as
a company we are incredibly enthusiastic about
modular construction as we have decided to utilize
it at the building called B2, which you have heard
about a little bit already today. That is the
first residential—

CHAIRPERSON DILAN: [interposing]
Excuse me a second. There's just too much
background noise. I can't really concentrate on
what is being said. If we could have the chamber
come to order. I know you guys got to work out

some technical issues, but if you could do it maybe a little--

[background conversation]

ASHLEY COTTON: So as I was about to say, we have decided to utilize modular construction at B2, which is the tower you have been hearing a little bit about today. It is the first housing tower at Atlantic Yards. It is 50 percent affordable. It is being built with all union construction, and it is being built in a modular factory in the Brooklyn Navy Yard right here in New York City. So thanks to our historic partnership with the building construction trades and with the Navy Yard, with Arup, with our partners Skanska [phonetic] are able to move forward on this very exciting project. I know today is not a hearing about B2. It's about modular construction, so we will go as quickly as we can. We obviously know a lot about this technology and this construction. - - couple of slides here today. I do want to mention everything we are presenting here today was done already at a public hearing right in Brooklyn when we were asked by the State who is our regulator on

the Atlantic Yards project to present B2, and so we are happy to bring it here today.

MELISSA BURCH: The first slide refers to a premium for high rise construction. In green you see the national cost of building high rise and in blue you see the extra premium for building in New York. You see since 2008 when the economic crisis happened that construction costs have continued to increase. It's a combination of the rise in cost of construction and some of the issues that Ashley discussed at Atlantic Yards are commitment to affordable housing and the fact that we have real land cost at that project that actually led us to figure out how to innovate in order to fulfill all of our goals and promises at the Atlantic Yards project. On the next slide, our innovation led us to modular, and innovation obviously has happened in a lot of different industries. These are just a few of the recent innovations, and how they have disrupted in many ways the kind of current technologies that were in place. Paper maps have been replaced by GPS navigation. It didn't happen overnight. It was a process, and just like

conventional construction over time has been moving towards modular. Forest City did not invent modular. B2 did not invent. Modular has been used worldwide, across the country and in New York City, and we will speak more about the process of going from pre-existing, pre-assembled components to modular on the next slide.

BOB SANNA: The way to view the solution at B2—

CHAIRPERSON DILAN: [interposing]
I'm sorry. You just have to introduce yourself in your own voice for the record, and then you can continue. Just need to do that for record keeping purposes.

BOB SANNA: Bob Sanna, executive vice president for design, development and construction at Forest City Ratner Companies. So the way to view the solution at B2 and much of modular construction is to look at it as process innovation, not necessarily product innovation. Many of the materials, components and products that we are using are all the same materials that are installed conventionally. They are just installed differently in a different manner, but

not different from the current materials that are in buildings. What has been commonplace in the city of New York is an aggregation towards prefabrication or preassembly. Many facades, our Beekman [phonetic] project there, the first one was all assembled in several factories, brought to the city and erected conventionally. Today it's pretty common that data centers and large components of installations are characterized as sub-assemblies. Many hospitals use sub assembly components today. Then finally, the modular solution, which is fabricating the largest chunk of a piece of housing in this particular case and delivering it to the site. In the case of modular construction it is the process by which the sections are built at the factory and then delivered to the project site. Inside the factory is an orderly process by which components are assembled, and onsite you can see that they are erected in individual components.

MELISSA BURCH: Melissa Burch. As mentioned, there are examples all over the world of implementing modular technology. Modular is used in data centers, in labs, in cable landing

stations and in housing and hotels. This slide is just meant to demonstrate that it is used across a lot of industries and has been an accepted technology in many countries. In the U.S. specifically modular has been used from dormitories to corporate uses, corporate office uses as well as hotels and residential. On the next slide here in New York these are examples of built projects in Queens, Brooklyn mostly that show success stories in modular building. There is one on the lower left hand corner that is actually right across the street from the Atlantic Yards site. These are affordable housing units that were built next to Atlantic Center back in 2002 by Capsys, and there are severally really nice examples of incorporating this modular technology into a low rise application. What Forest City has done in terms of modular is to add the high rise component, so when we say that Forest City cracks the code it is that we have brought together a number of different components that have allowed us to implement modular for a high rise solution. The first is really bringing together the right team. Forest City has

partnered with Skanska that has a global presence in modular production and will be launching a factory facility in the Brooklyn Navy Yard. The name of that new modular business is called FC plus Skanska Modular LLC. We have employed a world class design team of SHoP Architects, which is the façade architect for the area and is the architect of our - - - for B2 and well as Arup, who is with us here today. These are world class design professionals that have been able to incorporate the best of modular design and technology into Forest City solution. We have entered into a historic partnership with the building and construction trades union. We are very happy to be in partnership with the union for this building and to launch this factory. The factory in the Brooklyn Navy Yard will contain members from a newly formed modular division underneath the building and construction trades union. The workers in the factory, which will all be union workers are a composite crew that is with cross trained workers so workers will work in teams. It will be a very collaborative environment where you have carpenters that will

also be doing tile work, and that will also be fitting out units, putting in electrical components. It is a team based type of environment, and there is precedent throughout the union at the port authority and other places for composite crews with this cross trained solution. We have an identified factory location. This factory will be here in New York City and in Brooklyn at the Brooklyn Navy Yard. This isn't what we hope is a one building solution. We hope that this is a long term solution for Atlantic Yards, and just to jump down to the last bullet, really a new business and a new solution for New York City high rise construction and the reason why we think this has a lot of potential and could be groundbreaking is that there is over time probably not on our first building, but over time up to a 25 percent cost savings that we think that can be achieved by using modular construction technology. That cost savings comes from speed. We will show that buildings can be built faster because of what the Buildings Department Commissioner mentioned that you can have activities going on both onsite and offsite at the

1 same time. There is also productivity
2 enhancements that come from doing work in a
3 controlled setting, and we will go through some of
4 those modular benefits in a moment. The cost
5 savings has huge implications for a union market
6 share, which the market share of unions has eroded
7 very steadily over the last five years throughout
8 New York City and especially in the boroughs. We
9 have a commitment to working with unions and
10 wanting to use union labor for all of our projects
11 and believe that this cost advantage will make the
12 unions competitive over time. In addition, we
13 think it has very exciting potential for
14 affordable housing and the ability to build
15 affordable housing projects in a high rise format
16 with real land costs as we are doing at the
17 Atlantic Yards project. David?

19 DAVID FARNSWORTH: Great. David
20 Farnsworth with Arup. We are the engineer of
21 record for the project at B2. What I hope to show
22 you today will explain the structural system and
23 hopefully address many of your concerns. What we
24 show on the screen here is an elevation looking at
25 the front of B2. The red line that cuts across

the bottom shows that the basement and the first story will be constructed with conventional construction, so everything that is below that red line will be just like any normal building—concrete foundation, mechanical rooms with plumbing, electrical systems installed onsite, and then above the red line is where the modular construction starts. If you go to the next slide... What the module construction consists of is a series of these chassis is what we have termed them—it's effectively a shippable sized container that will have an apartment or a portion of apartment inside of it. The frame is actually fully—it's all steel, and it's welded together to form a nice, stable structure. So the modules themselves are stable, and basically when we get to site, we can stack these modules on top of each other and connect them together and connect them back to a supplementary lateral system. Each module has both a floor and a roof, so that it is fully contained when it gets to site. This is an image that shows all of the structural elements within the B2 building. It is actually quite dense and the column spacings are quite tight, but

they are all set to be within the partition walls between apartments, so it's a good mix of redundant, highly repetitive structure, but at the same time the structure is located in walls, so it doesn't really affect the apartment layouts. You will never actually see the building looking like this because most of those structural members that you see there will be embedded into the wall of a module when it gets shipped out to site. If you go to the next slide, this shows the portion that is not being constructed modularly, so everything in the kind of grayed out zone is going to be constructed of simply stacking modules one on top of the other. Before we start setting the modules though, we will construct the foundation and kind of the roof above the ground floor to establish a nice level platform that we'll then come out and start setting the modules on top of. As we erect the modules, we will also have a series of these steel brace frames that help to resist wind loads and seismic loads and all of the loads that a tall building in New York City needs to resist, and in many ways, this lateral system is no different than almost every office building that is

constructed of steel here in New York City. They typically have a steel brace frame system to support lateral and wind loads. The gravity loads of the modules are carried by the modules themselves, the four corner columns of the modules carry those loads all the way down to the - - , which then go into the foundations, and the modules are connected together at the roof level of each module to tie back laterally to the brace frames, so it's really the process and the timing of when these steel connections are mad that is different, but the actual elements that make up the system are no different than any steel building out here in New York City today.

BOB SANNA: Bob Sanna, executive vice president for design, development and construction at Forest City Ratner. So this slide shows the kinds of work activities that go on within the factory. You will see that its carpentry, mechanical, electrical work, much of the same componentry work that would typically go on onsite is simply happening indoors with the composite crews that Melissa talked about within the chassis frame that we have designed. So David

indicated the initial chassis, which is fabricated by a structural steel fabricator, someone who fabricates most of the tall steel buildings in the city. They come fully assembled to the Brooklyn Navy Yard. That is step one, and that comes to the site fully engineered, fully fabricated at an offsite facility. Step two is we start to bring in components that are fabricated into the building, so there is a team that is simply building the bathrooms if you will, and the framing, the sheet rock, the plumbing, the walls, those are fabricated as a component within the Brooklyn Navy Yard facility and then inserted into the chassis. The next step in the chassis is traditional stud framing, roughing for mechanical and electrical again, similar to the work activities that you would see on the site. It is pre-engineered, but again, all installed in the module. We then add the dry all and the kitchens, those finished components, and then finally we put the facade on the building. As David pointed out earlier, there is a roof and a floor and it is completely sealed so it is envisioned that these as they are completed will be stored outside of

the factory and queued up for delivery to the site, so when the modules are delivered to the site, they are completely fitted out and we have to make structural connections and mechanical and electrical connections. That work will be done under contract with plumbing contractors, electrical contractor. We will bid that work out the way we conventionally do and within the circle, the darker delineated pipes is an attempt to show how the - - line work is done, so those components are delivered to the site. They are installed. The hallway of the module of the building is envisioned to have these access areas, so those pipes and connections are made from the hallway so that the workers don't have to go into the unit proper to make those connections. All the assembly and connection mechanically, electrically is done from outside and as David pointed out, the modules have now been bolted together as they are assembled on the site. As pointed out earlier, it is in a controlled environment, so if you have ever been on the 20th floor of a high rise building in the middle of January trying to install plumbing you can

envision how difficult that might be. Same thing with sheet rock and plumbing. Here we provide a stable environment. It's a 100,000 square foot facility where all the work can go on and we think that is a big part of the efficiency and productivity enhancement that we will see. Some of the benefits is simply the safer work environment, very limited amount of work is going on at heights. Very limited amount of work is going on in an open and exposed building, and we point out here that the manufacturing sector tends to be significantly safer than onsite construction. Another benefit is just the reduce waste and trash. It's a much more sustainable solution. Materials that can be fabricated in the factor can be fabricated again with the benefit of technology much more precisely. There is a lot less vehicles coming to the site delivering all of those components and much less reduced energy consumption outside.

MELISSA BURCH: Melissa Burch. As previously mentioned, the modular has the ability to be significantly faster—30 to 50 percent faster than conventional construction, and this is

predominantly because there are an overlap between the activities that can take place both onsite and offsite in the factor. The last page talks about reduced community impact because there is a significantly less time of onsite construction. There is less noise, dust, pollution. There is less disruption to the community and to the adjacent homes or other uses where the construction site is. There is less traffic to and from the site, fewer deliveries and less noise. Thank you very much.

CHAIRPERSON DILAN: Okay. Thank you. I am going to start out the questioning, and I want to urge my colleagues to kind of follow my lead and do the same thing, but what I would like is just less of a lead up, more direct questions because we will at some point run into a problem with time and there are plenty of people that want to testify, and I think this is the way we have to do it in order to get everybody in and to get all of our questions in, so I'll allow question, but I'd prefer that we go right to them. I want to start, and this is for the appropriate person, obviously this is as you stated in your testimony

not something that your firm has created, it has been done outside of the United States and outside of New York City potentially. Why do you think that this style of building is attractive to New York? Why do you think it's attractive to New York City residents? Do you feel it will be safe over the long term? Even though you answered this in your testimony, you expressed how you expect to achieve time savings and therefore affordability and not that we are indicating that we want it built one way or the other, but can you build it within that time frame with union, non-union and can you do it safely under any circumstances? So it's a several part question balled into one. If you can give me the best answer--

ASHLEY COTTON: [interposing] Yeah, so I'll take a start. This is Ashley again. So we think it's great for New York City because there is a lot of construction going on in New York City which we are obviously pleased about. It's good for the economy, but there is noise, there is dust, safety concerns, things that your committee has been looking at as Chairman. We think this is good for the shorter the

1
2 construction, there is less of an impact on a
3 community that in our case has been living next to
4 construction for years already. We think that it
5 is a good source of union jobs. Like we said,
6 this is going to be a union development, always
7 will be when Forest City is the developer, and so
8 we think there is great benefit there in terms of
9 jobs and economic activity. We also think that it
10 could be great for affordable housing, something
11 that is just as costly to build in New York, but
12 obviously it has reduced returns for developers.

13 CHAIRPERSON DILAN: Okay, so just
14 on the affordability front—and I'm going to assume
15 and you can correct me if I'm wrong—that there is
16 no government subsidy here. The financing is
17 being conducted for this particular project is
18 self-financed as at this point I believe as most
19 modular construction is. So to that end, what
20 targets of affordability are you seeking to
21 achieve? What is the classification of folks from
22 an economic standpoint that you view as your
23 target market?

24 ASHLEY COTTON: First we just want
25 to be clear that this we have private financing,

but we also have city financing. There are HDC bonds helping to subsidize affordable housing just like there are for affordable projects all over the city, so this will be a half affordable building. It's a 50, 30, 20. The AMI bands, which Melissa I'm sure has memorized, we could share with you—

CHAIRPERSON DILAN: [interposing]
Yeah, if you want to jump in.

MELISSA BURCH: The affordability targets low, moderate and middle income households. For the low income it's 60 percent of AMI and below. For the moderate—we have bands at 80 percent. We have another band at 120 and then a middle income band at 150 percent of AMI.

CHAIRPERSON DILAN: Okay, and that is because there is an—it just explains my lack of familiarity with the project. I'm sure others on the Committee are more familiar with it. Without government financing, would you be able to achieve this style of construction and without the financing would you anticipate that one, you would have a market and that two, you would still be able to build it affordable?

ASHLEY COTTON: So I'll answer. I don't want to connect the construction method to the financing, but the affordability and the financing are absolutely linked, and yeah, just like numerous projects that you guys know very well throughout the city, big affordable housing projects like Atlantic Yards, yeah, absolutely, the city financing is instrumental.

CHAIRPERSON DILAN: So I would have to think just sitting here that one, this won't be the last project that you do, you may or may not intend to seek city financing in future projects just as an industry as a whole for a moment and looking at the future growth potentially of an industry, do you think that in a non-subsidized manner, is there sustainability for this market on the affordable end or without the subsidy do you consider it as more of a luxury product?

ASHLEY COTTON: So again, I don't want to tie the construction to the financing. We made a decision to—

CHAIRPERSON DILAN: [interposing]
It's a theoretical question.

ASHLEY COTTON: Yeah, I just want

to make sure I'm answering it correctly. Melissa jump in if-

MELISSA BURCH: I would just say that we believe modular can be used for luxury housing and for affordable housing and even though we say that B2 is 50 percent affordable, the other 50 percent is market rate housing and we believe that this quality of construction, which is very, very high quality construction, excellent tolerances, excellent design, will be attractive for both affordable households as well as market rate households.

CHAIRPERSON DILAN: Okay. So just moving on from that for a second and thanks for coming on the record on that. I assume that somewhere else that it is on the record so thanks for that. Shift into the jobs for a second. I'm glad that you stated that some of the positions that your firm in particular will be building with are going to be union, but is there I guess room for-and this maybe is particular to your development, but is there room for job opportunities from people from the immediate area where you guys are constructing and doing your

work. Is there room for them to join maybe an apprenticeship program in conjunction with the unions that are going to be working on this project because regardless of how anyone feels about the work that you have done over time, I think the worst feeling in the world for us is that a project goes up in our districts and our constituents are saying how come we can't get any work from these projects, so if you could just—

ASHLEY COTTON: Thank you for the question. It is something we care a lot about and this is not on topic, but I can't help myself. We just hired 2,000 people at Barclay Center, and 80 percent are Brooklyn residents, 1/3 of them are NYCHA residents and a 1/3 of them are from the four community boards that surround the area—

CHAIRPERSON DILAN: [interposing]
Yeah, and I do want to stay on topic—

ASHLEY COTTON: Totally, so I just wanted to say that we are glad to ask the question 'cause you can see it is a priority for us, so we are going to be building in the Brooklyn Navy Yard, which is surrounded by a number of communities including a large public housing

community. The Navy Yard and BWI, Brooklyn Workforce Innovation, has a great record of bringing workers into the Navy Yard and getting them employed there and so we plan to work with those systems because they have a proven track record already to make sure that local residents are getting jobs. That being said, this is a union job and so everyone that works in our factory has to be a union member. Luckily with the building and construction trades we share our goal of hiring local people and getting maybe non-traditional workers into the union trades, so working with the building construction trades, the three apprenticeship programs that they have highlighted they want to work with and we share that goal completely. Our NEW [phonetic], which is employment for women, Helmets to Hardhats, which is employment for veterans and Construction Skills 2000, which is employment for young men and women, high school.

CHAIRPERSON DILAN: Okay. So I guess in your research in conducting this project in light of the fact that high rise has been done in Europe, what have you learned from Europe?

1
2 What has Europe done well? What can we learn and
3 in particular towards these projects what are the
4 impediments to expanding to modular construction
5 and you highlighted what the benefits are, but
6 what are—what did you learn from Europe? What are
7 the impediments and draw backs of this type of
8 construction?

9 BOB SANNA: We visited one project
10 I guess in what is the currently tallest building—
11 tallest modular building. It's in Wolverhampton,
12 England. It's approximately 24 stories. It is a
13 similar style construction methodology with
14 modules. I think the only difference is where we
15 are using structural steel brace frames and David
16 could speak to this some more if he feels I don't
17 answer it correctly, but where we are using
18 structural steel brace frames and then bolting the
19 modules and connecting those modules together to
20 resist the over the wind loading, which is pretty
21 common construction technique in New York. They
22 are using a concrete core, and they are trying to
23 attach the modules to a concrete core. We felt
24 that there was many more rooms for discrepancy.
25 The steel tolerance, the steel to steel tolerances

could be much more exact. We can enjoy the benefit of having the steel chassis and the brace frames fabricated by the same manufacturer again, creating tighter tolerances, and I would say that is probably the most significant difference in the building system from the apartments themselves. Again, you wouldn't know they were modular when you walked around inside them. These frames are completely enclosed in sheet rock and given the 12 to 15 foot dimensions of typical apartment widths, they are really generally column free.

CHAIRPERSON DILAN: Do you want to expand—I know that was a two-part question; I am doing it for speed—on the impediments and drawbacks of this type of building that you have come up with so far?

BOB SANNA: I think the most significant benefit that we can see is again—

CHAIRPERSON DILAN: [interposing]
No, no, impediment.

BOB SANNA: Impediment?

CHAIRPERSON DILAN: Drawbacks. You have highlighted the benefits. We got that part.

BOB SANNA: The impediments I think

are less public in that it requires a building to be completely designed and completely finished, so you have to start thinking about since you put the building into the factory, the stencil be it the same time you start the work in the field you have to really design the building from the get go, so you have to select the tile at the same time you are selecting the structural system, and in our particular case when we file with the Building Department we filed for a full building permit, not just the foundation permit, so I think the benefit it is an impediment in that it requires much more intensive design and analysis upfront. The benefit is that you get some of the irregularities that happen and some of the mishaps that happen in construction sometimes come from this fast track nature of buildings, so I think there is an impediment, but I think it works out to the industry's benefit.

CHAIRPERSON DILAN: I would say and I'm done with my questioning. We will move to Council Member Brewer, but I would say I hope after it's constructed that you are still able to answer the question in the same manner that you

just did. Council Member Brewer and she will be followed by Council Member Fidler and then Council Member James.

COUNCIL MEMBER BREWER: Thank you very much. One question I had I am not as familiar with this, why don't you think other people in New York are doing this and that you are the first?

ASHLEY COTTON: This is Ashley. I'll speak anecdotally, and they can give you more of the expertise, but the amount of investment and the time that we had to put to the upfront solution here is just something that we were willing to take on and maybe others weren't. We think--the language we use is crack the code. We think we cracked the code, but that took touring in England, investing in a factory, getting Arup on board Skanska on board. It's significant. Doing things new is more work.

COUNCIL MEMBER BREWER: It says in your testimony that you are but are you as LEED proficient as for instance some of the Durst buildings by doing it this way?

MELISSA BURCH: In terms of LEED?

That was your question? The building—this first building that we are doing at Atlantic Yards, B2 is designed to LEED silver certification, so yes, it has been submitted through the U.S. Green Buildings Department.

COUNCIL MEMBER BREWER: And then the Brooklyn facility is that—maybe you said this and I misunderstood. Is that owned by you, a different company and if another company wants to come in and use it, do they also make sure that it is a union job? In other words, how does that Brooklyn facility if at all, fit into the rest of the city? I don't know.

MELISSA BURCH: Sure. So the facility is going to be or has been created by an entity called FC plus Skanska modular, which is a partnership between Forest city and Skanska, so they have formed this new entity. The new entity is actually going to be the ones fabricating the modules and running the facility. We hope that B2 is a success, and—

COUNCIL MEMBER BREWER:
[interposing] It could exist after B2?

MELISSA BURCH: Yes, and to the

extent that it is, we would certainly want to see this factory being employed by lots of developers throughout the city and used on lots of different types of buildings and because it is a union facility everything that is done in this factory located at the Brooklyn Navy Yard will be union.

COUNCIL MEMBER BREWER: So the 25 percent savings is somewhat less people driving trucks—it's true less dust. In other words the jobs that are not existing because you are local—I am just trying to think, where do you get that 25 percent savings. Is it from other kinds of personnel that would be involved in a more traditional building?

MELISSA BURCH: It's really three things. One is that there is a different wage classification for workers in the factory versus onsite. Two—

COUNCIL MEMBER BREWER:
[interposing] Translate that.

MELISSA BURCH: Meaning that they work for a different wage.

[crosstalk]

COUNCIL MEMBER BREWER: They get

paid less?

MELISSA BURCH: Yes. They get paid less.

COUNCIL MEMBER BREWER: Wage classification is fine, but paid less.

MELISSA BURCH: Yes, they get paid less than workers working onsite, but there are benefits to that. They have a steady 40 hour a week job and to the extent that this is successful, they will be working in the factory 52 weeks a year.

COUNCIL MEMBER BREWER: Okay. I'm just trying to understand.

MELISSA BURCH: Sure. The second is productivity. We think that a factory set up is more productive than onsite, meaning you don't have for instance with material handling, it is much more efficient to receive it into a loading dock and to be distributing it to different module stations where everything is on the first floor instead of trying to navigate up and down a hoist in a 32 story building, and lastly is the time savings associated with doing onsite and offsite at the same time.

COUNCIL MEMBER BREWER: Okay, and will the affordable 50 percent be scattered throughout the building or is it in one area?

MELISSA BURCH: It will be scattered.

COUNCIL MEMBER BREWER: Okay. Thank you, Mr. Chair.

CHAIRPERSON DILAN: One follow up. Council Member Fidler was supposed to be next but just to follow up, can you give us the difference in the wage classification, the difference what you would have to pay traditionally versus what you pay at the fabricated site?

MELISSA BURCH: So it has been negotiated, and Bob, correct me if I'm wrong, but the wage classification—

CHAIRPERSON DILAN: [interposing] -
- .

MELISSA BURCH: Oh, I'm sorry.

CHAIRPERSON DILAN: Let me just say, I don't mean to get into the details of your exact negotiations, but on average, how much do you save? Do you save 30 percent, 40 percent, 50 percent?

MELISSA BURCH: So for B2 we believe the savings will be more modest than 25 percent. We hope to get to 25 percent savings for the entire project, not on the wage.

CHAIRPERSON DILAN: On wages specifically--

MELISSA BURCH: [interposing] On wages specifically, it's probably about half--would you say?

BOB SANNA: I don't know that it's necessarily half. We have negotiated an average rate in the factory that is approximately \$36 an hour with benefits, some are lower, some are a little bit higher. There are five different classifications within the factory that is all within the confines of a collective bargaining agreement that we worked out with the building trades. That is completely in line with other manufacturing jobs here in the city. There are other manufacturers building components, which -- and others and the unions do have classifications that go to this wage rate when one is employed 52 weeks a year as opposed to 12 weeks. I would say that that wage rate is probably 10 or 15 percent

less than if the person were employed onsite and the onsite wage rate is probably a little bit higher. The - - rate-

CHAIRPERSON DILAN: [interposing]
So it's about 10 to 15 percent?

BOB SANNA: Yes, it is a little bit higher out in the field, but that is a less regular job and potentially - - .

CHAIRPERSON DILAN: Just for time, that is all I was looking for was the ten to 15 percent. I know that every project in the future will have a different negotiation, a different PLA [phonetic], but I just wanted that number as an example. Council Member Fidler?

COUNCIL MEMBER FIDLER: Thank you.
First, I want to say that you guys come to the table a lot more answers than the Department of Buildings seems to have. I'm not saying that because I'm surprised, but I just think it should be noted for the record that I at least have a certain trepidation that the Buildings Department is not prepared for this. If this is the way that construction is going to be done in the city that the don't seem to have really-if they have looked

at it intensively they certainly haven't shared it with us, and I'd also just want to say for the record that I appreciate the fact that both your workforce will be union labor and that you are siting the facility in Brooklyn. I just would kind of say to the Chair if in fact we are going to be this type of construction at a greater degree in New York City we ought to be thinking about ways to incentivize that the offsite manufacturing is done in the city.

CHAIRPERSON DILAN: I have to ask the Council Member to get to his question--

[crosstalk]

CHAIRPERSON DILAN: I wish I was in charge of the New York City construction industry. They just put me in charge of this committee.

COUNCIL MEMBER FIDLER: I'm sure that there are things that we could do creatively to incentivize that the jobs remain local rather than be shipped out to Kentucky. I do have specific questions. I was looking at your slideshow here and you say that manufacturing sector is six times safer than construction. How do you quantify something like that, and what type

of safety are you talking about?

MELISSA BURCH: We have done our best to reference everything from where the research has been generated on that specific slide I believe it is referencing the - - research project from 2004.

COUNCIL MEMBER FIDLER: Not being familiar with that research project can you explain what it is trying to say? Safety to whom?

MELISSA BURCH: Safety to the worker.

COUNCIL MEMBER FIDLER: Okay. So your—I guess I'll try to answer my own question. You tell me if I'm right—

DAVID FARNSWORTH: I think the six times figure reference is the number of accidents and incidents, so there are six times more incidents in a conventional construction job than there are in a manufacturing sector per employee.

COUNCIL MEMBER FIDLER: And injuries on an onsite construction site tend to be rather severe when they occur, I believe, so while there might be a lower wage scale for some of the workers that would be contributing to this project

those workers would be safer. Is that the point here?

DAVID FARNSWORTH: Yes.

COUNCIL MEMBER FIDLER: Okay. The other question I have is both you and Buildings referenced the fact that the construction time frame from beginning to end is quicker, and that is certainly something that I think all New Yorkers are going to be happy to see because I think work on a construction site tends to be as - - if it gets stalled, and Lord knows there are hurricanes happen, things like that and they get stalled is the bane of our existence. How much time do you anticipate in the project that you are building now, the 32 story project, do you think would be saved, and I realize this is a guess, by doing this in this fashion as opposed to the old fashioned way?

MELISSA BURCH: For B2 we believe there is an approximately ten month savings of doing it the conventional way versus the modular way that we are undertaking for B2.

COUNCIL MEMBER FIDLER: And how much—that's ten months out of how much?

MELISSA BURCH: That is off of—
[crosstalk]

MELISSA BURCH: Off of about 30 months would be conventional construction, so it's ten months off of 30, so it will be about 20 months.

COUNCIL MEMBER FIDLER: So - - that 1/3 of the construction time by doing it this way?

MELISSA BURCH: Correct.

COUNCIL MEMBER FIDLER: Okay.
Thank you.

CHAIRPERSON DILAN: Thank you,
Council Member Fidler. Council Member James.

COUNCIL MEMBER JAMES: So I want to go back to the slide where it says New York City housing success. Can we go back to that?

MELISSA BURCH: Yes.

COUNCIL MEMBER JAMES: So it's not called Atlantic Center. It's called the Atlantic Terminal Housing. And are you aware that there have been a number of meetings with the residents of Atlantic Terminal that I have attended with regards to the fact that those buildings are sinking and the fact that there are some

construction issues related to all of those buildings? I have attended at least four or five if not more meetings with regards to the residents of Atlantic Terminal, which as you indicated is right across the street from the project in question and was built modular.

ASHLEY COTTON: No, we are not.

COUNCIL MEMBER JAMES: Okay. Are you also aware that there was at the Navy Yard, the Navy Yard was flooded as a result of Sandy?

ASHLEY COTTON: Yes, we are aware of that.

COUNCIL MEMBER JAMES: And so the question is what are we doing to ensure that in the event of any storms that may come as a result of climate change that the site in question will be secure?

ASHLEY COTTON: I guess I would say that we had some work going on in the Navy Yard during Sandy, and so we are certainly aware of the impacts that the storm had on it. Our factory wasn't complete at that time, so I think there is lessons to be learned from it. I don't know if we can speak to them specifically today, but that

experience obviously was enlightening for all of us just like it was for the city as a whole.

COUNCIL MEMBER JAMES: Have you incorporated into your budget additional cost to secure your site against any storms?

ASHLEY COTTON: Yeah, I don't think there are specifics we could share with you today.

COUNCIL MEMBER JAMES: Again, obviously the housing is the most exciting part of the project because it yields so much affordable housing which is desperately needed, and obviously, the credit goes to Acorn [phonetic], who was instrumental in developing the grid, the 50/30/20, but that notwithstanding my question to you is besides B2 there is 15 other buildings that are anticipated as part of Atlantic Yards project. Will all of them be built modular, including the commercial?

ASHLEY COTTON: At this point we are looking forward to B2, looking forward to being successful and obviously depending on how we do, can make decisions about the future, but as Melissa pointed to the reason we think we have "cracked the code" is because we have pipeline, so

it would be our hope that this can work for all of Atlantic Yards and buildings across the city.

COUNCIL MEMBER JAMES: And I do know that this project was subject to a state environmental review process because this project was subject to the state jurisdiction. I don't recall in the Secra hearing whether or not they considered or contemplated modular buildings. Was there any environmental review with respect to modular housing?

ASHLEY COTTON: Yeah, not that I am aware of. The environmental review I assume you are referring to was done many years ago, so—

COUNCIL MEMBER JAMES: [interposing] So there was no environmental review—

ASHLEY COTTON: At that time, we weren't planning this tower this way.

COUNCIL MEMBER JAMES: As you know, there have been issues in and around the Yards. People have complained about noise and dust and things like that. To what extent is this modular housing going to ensure that the noise is contained within the structure?

ASHLEY COTTON: Again, that is one of the benefits we are really excited about. First of all, noise shortened as Councilman Fidler just pointed out, and less noise because there will be more work done offsite, and so we think it could be a great reduction of community impacts.

COUNCIL MEMBER JAMES: And all of the pre-assembled components will be built in the Navy Yard. Is there any components or any elements of this project that will be built outside of the city and/or state?

ASHLEY COTTON: Yes.

COUNCIL MEMBER JAMES: What part?

ASHLEY COTTON: The steel chassis that if you remember when Bob was talking and there were a number of steps. That first picture, that comes completed and frankly, I asked the same question. It's incredibly noxious, industrial sort of work that is not typically done in a place like New York City.

COUNCIL MEMBER JAMES: So where will it be built?

MALE VOICE: Fredericksburg, Virginia.

COUNCIL MEMBER JAMES: What did you say?

ASHLEY COTTON: Fredericksburg, Virginia.

COUNCIL MEMBER JAMES: Fredericksburg, Virginia and is that site a union shop in Fredericksburg, Virginia?

BOB SANNA: Yes, for our steel fabricators. Yes, it is.

COUNCIL MEMBER JAMES: How many jobs do you know will come as a result of this site in Fredericksburg, Virginia?

BOB SANNA: They are a national fabricator, but I can tell you that they have recently started construction on a 60,000 square foot addition to their factory to create these chassis.

COUNCIL MEMBER JAMES: Will that factory be subject to the building code of New York City or will it be exempt?

BOB SANNA: It would be subject to the building code of New York City. I believe he is an approved fabricator that you heard some testimony about this morning.

COUNCIL MEMBER JAMES: Will inspectors have to go to Virginia or will they inspect that product once it arrives I assume onsite or in the Navy Yard?

BOB SANNA: The process of special inspection will require that inspectors that the owner would hire would go to Virginia periodically to look at the quality control and issue reports that they would also share with the Building Department.

COUNCIL MEMBER JAMES: In the event that you consider perhaps doing modular for the other 15 buildings that have yet to be come online would Forest City Ratner consider building a similar factory in New York City and/or New York state, hopefully in Brooklyn?

BOB SANNA: I think we could consider it, but what I think Melissa tried to talk a little bit about is the regulatory requirements of structural steel fabrication there is a lot of welding, smelting, there is a lot of really nasty stuff that goes on that might not necessarily be an easy factory to construct here.

COUNCIL MEMBER JAMES: Can you talk

a little bit about the fire code and how the fire code relates to modular buildings?

BOB SANNA: The building is fully compliant with New York City Building Department specifically or the regulations on fire code. It's fully fire proofed and meets all of the fire ratings. There are two and three and four hour ratings on various components in the building and we all meet that component.

COUNCIL MEMBER JAMES: And sprinklers can you talk to me a little bit about sprinklers? How many sprinklers will be utilized in these modular buildings and where will they be installed? When would--where would they be installed in terms of geographic area or is that manufacturer in New York City, New York state, Brooklyn perhaps?

BOB SANNA: The building is fully sprinklered [phonetic]. I can't testify to the quantity. We could get the exact number, but every apartment has several as well as the corridors. The fire protection componentry will be installed much like the others. The factory will install a certain amount of piping and

sprinkler heads within the finished module and then the contractors that come to site will put the risers in, do the - - connections and then activate those fire systems to either roof tanks or the pumps in the basement that are being erected, built conventionally.

COUNCIL MEMBER JAMES: Mr. Chair, last three questions. There was an article on November 27th which described the undertaking of modular building as ambitious and risky, do you have any response to the New York Times article?

ASHLEY COTTON: I guess I am not sure who you are quoting—the New York Times or somebody else?

COUNCIL MEMBER JAMES: It's an article on November 27th, 2012.

ASHLEY COTTON: It's ambitious certainly. We don't think it's risky otherwise we wouldn't have gone after it.

COUNCIL MEMBER JAMES: Last two questions. Is there any concrete? Will there be any concrete at all in this modular building at all? Where's the concrete?

DAVID FARNSWORTH: The basement

will be constructed—

COUNCIL MEMBER JAMES:

[interposing] That's conventionally. What about the—

DAVID FARNSWORTH: Once you get above that red line, there is very little concrete. There is some housekeeping pads for mechanical equipment, but that is it. No, pretty much not much concrete above the modular component.

COUNCIL MEMBER JAMES: The swaying of the building, how does one prevent the swaying of the building given its height?

DAVID FARNSWORTH: So the building has been designed and the brace frames have been designed to resist the wind loads, and there is actually a - - stamper in the roof, which is a common system in use across multiple building types to control wind motion.

COUNCIL MEMBER JAMES: Last question if this were built conventionally versus modular how many union members would there be onsite conventionally versus modularly, has there been a cost comparison or just in terms of

numerically how many workers?

ASHLEY COTTON: I don't have those numbers on me today.

COUNCIL MEMBER JAMES: Thank you.

CHAIRPERSON DILAN: Well I guess in general obviously you may or may not be under some obligation. I know you don't have the numbers today, but at some point if you could give us a comparison of that I would find that to be interesting. Thank you, Council Member James for getting directly to questions. Council Member Crowley?

COUNCIL MEMBER CROWLEY: Thank you, Chair and to follow up on the Chair's request if we could actually get the numbers of wages, the packages compared to working on a construction site versus working in a factory, I'd like to see that as well. To follow up on some of the questions that Council Member James asked about concrete. Isn't policy—I know that in the World Trade Center One right now they are building the elevator, around the elevator system with concrete, and the egress, the stairways. Will this building have concrete around those areas for

fire safety?

DAVID FARNSWORTH: This building the stairwell is encased in a substitution for concrete, so we have a thing called a shaft wall. It's effectively a hardened gyp [phonetic] panel that takes the place of the concrete around these zones.

COUNCIL MEMBER CROWLEY: But you're an engineer? You're a professional engineer?

DAVID FARNSWORTH: Yes.

COUNCIL MEMBER CROWLEY: Is that as safe as concrete? Is it as fire retardant?

DAVID FARNSWORTH: Yeah, yeah. It's rated—it has the two hour rating to protect the core area and the shaft area of the elevators and the stairs.

COUNCIL MEMBER CROWLEY: But it's certainly not as safe?

DAVID FARNSWORTH: It meets the building code provisions. Would three feet of concrete be stronger than an inch and a half of gyp wall panel? Probably.

COUNCIL MEMBER CROWLEY:
Absolutely. Now when you have these modulars

being fabricated in the factories, do you have to have a subcontractor? Will Skanska—I think that if when we are evaluating what is happening with this modular building we are assured somewhat because the companies that are building the modulars are respected companies—respected developer, respected general contractors working together, but in the future right now this is happening in a factory in Brooklyn. In the future it could be happening in a factory in Tennessee without nearly as much oversight or without skilled trades building the modulars. If another developer sees what you are doing and says hey, why should I pay so much for union construction in New York City or manufacturing in New York City when I can get it at a fraction of the price in another state, that is what is going to happen. I can see it now, and I know that they are not going to have the same type of oversight that you would or that you are on track to having in the Brooklyn Navy Yard. Just making that statement, but getting at the core of what I was trying to get at earlier is the subcontractors, those that are licensed to do electrical or mechanical work, the

state laws that require that a general contractor subcontract with an engineer—

CHAIRPERSON DILAN: [interposing]
Council Member, I want to just ask you to get to a question please.

COUNCIL MEMBER CROWLEY: Are you having subcontractors oversee the modulars that are licensed in those particular trades?

DAVID FARNSWORTH: The factory will not have subcontracts. The entire factory is -- as one business and will comply with all of the oversight requirements that you heard Commissioner Fariello testify to earlier. Onsite we will have all licensed subcontractors, many that we have long time relationships with.

COUNCIL MEMBER CROWLEY: Okay. I just have concerns as to whether it will really meet the requirements that the state has about subcontracting and the city, so that's all.

CHAIRPERSON DILAN: Thank you, Council Member Crowley. Are there any other questions from members of the committee? If not, we would like to thank you all for your time and—

ASHLEY COTTON: [interposing] Thank

you for your time.

CHAIRPERSON DILAN: Next we will have Capsys, Mr. William McShane, Mike Slattery from REBNY and we will add Jordan Isenstadt from the Association for a Better New York. If those three are here please come forward, and then we will have the following panel will consist of Mr. Stew O'Brien of the Plumbing Foundation, Mr. John Murphy of Plumbers Local 1, - - Arthur Klock from Plumbers Local 1 and Peter Nagy from New York Communities for Change and Bertha Lewis of the Black Institute. Considering if we can fit you all there, that will be the next panel. We will work out the seating after this is done. Is there going to be a presentation made here as well? No. Thank you all for your time and testimony. We can begin with Capsys, and if you could introduce yourself in your own voice and then you can begin your testimony. Try it again.

WILLIAM MCSHANE: Press the button. That would help. Can you hear me now?

CHAIRPERSON DILAN: Yep, we got you.

WILLIAM MCSHANE: My name is

William McShane. I am vice president and general manager of Capsys. We are a modular building manufacturer located in the Brooklyn Navy Yard. We have been around since 1996. We have built approximately 3,000 plus units of housing, over 3 million square feet in that time period. We are the or were the first approved fabricator in New York City of any product be that any manufactured product, be it pre-cast concrete, structural steel. We just happen to be a modular manufacturer. We were the first approved fabricator of anything, worked closely with the Building Department on that process. As I mentioned we are in the Brooklyn Navy Yard. We employ 70 people between the plant and the office. 90 percent of those people are residents of Brooklyn. We do various types of projects, be it town houses, hotels, assisted living, supportive housing, residence halls and the like. Our construction type is steel and concrete, completely noncombustible. We go up to and including 12 stories in height. We have a highly qualified and trained staff both in the plant and in the office and the process that we use in

preparing for a job is very meticulous including shop drawings, engineering and internal reviews of processes and drawings and we have an approved quality control system with third party oversight from various different engineering and other professional organizations. So I don't have much more than that, so I am here for anything you need.

CHAIRPERSON DILAN: Okay. You are largely the low rise currently the low rise fabricator. Is that correct?

WILLIAM MCSHANE: Yeah, we can build up to 12 stories, and the highest building we have built to date is seven.

CHAIRPERSON DILAN: Okay. Thanks. We will go with Mike Slattery.

MIKE SLATTERY: Good afternoon. I am Mike Slattery, Real Estate Board of New York. Modular or prefabricated construction has been around a long time. Its appeal has been its cost savings and quality controlled environment for most of its construction; however, this type of construction didn't catch on in New York for two reasons. It was not designed for the multi-family

housing type dominant in New York and other dense and urban environments, and it was antithetical to the union labor which is part of the DNA of New York's multifamily housing construction industry.

As modular housing project by Forest City addresses these two issues, it has worked tirelessly to adapt this method of construction for the type of multifamily housing that is commonplace in neighborhoods across our city, and two, it has worked with our colleagues in labor to keep the production of this housing local and union. These are - - that should be applauded.

There are some familiar benefits associated with modular construction with much of the construction being done offsite, it will reduce impacts to traffic with fewer truck trips to the site.

Construction will be completed much quicker lessening the associated impacts on communities and it has been estimated that modular construction will result in 70 to 90 percent less waste than conventional multi-family construction; however, this project holds the potential for more significant long term benefits. Modular housing can be an important and effective way to address

our city's chronic shortage of affordable housing by bringing the cost of housing construction to a level that more New Yorkers can afford. This project could generate demand city wide and throughout the region for more modular housing if successful. If so, then 125 union workers at the Brooklyn Navy Yard will only be a beginning. Achieving these long term goals however will not come easily. It will require continued hard work to make this construction method more readily accepted in New York. In a number of ways the two most difficult issues however are behind us, namely union labor and the multifamily housing. The challenge ahead is to find ways in which modular construction can become an important component in our ongoing effort to address our clients' shortage of affordable housing. Thank you.

CHAIRPERSON DILAN: Okay, and Mr. Isenstadt. Please correct me if I said that wrong. You have to say it in your own voice anyway.

JORDAN ISENSTADT: Sure. Thank you. My name is Jordan Isenstadt, deputy director

of the Association for a Better New York. If you are not familiar, ABNY is among the city's longest standing civic organizations advocating for the policies, programs and projects that make New York a better place to live, work and visit. We represent a broad fabric of New York's economy and our membership includes New York's most influential businesses, non-profits, arts and cultural organizations, educational institutions, labor unions and entrepreneurs. Thank you also for the opportunity to testify today. Modular building has been used in various forms around the world and the U.S., but rarely for high rise development even though it is well-suited for conditions where there are space constraints and land values are high, such as New York City. As construction costs continue to rise exponentially, New York City modular construction offers a more efficient and more affordable way to build while not sacrificing union labor, great design or sustainability. It has become clear that modular building is the future and it's time for New York City to embrace it. I am going to skip some of the testimony on terms of what other people have

said--

CHAIRPERSON DILAN: [interposing]

Thank you. We'll make sure that it's in the record and it's - - . Thank you for that.

JORDAN ISENSTADT: Just a few things I want to explain that haven't been said though is about kind of the structural integrity. According to a report by FEMA they concluded that there was actually less structural damage after Hurricane Andrew in 1992 and Hurricane Katrina in 2006 to the modular housing developments than traditionally built developments, and this is because modular buildings can be built to a higher standard allowing them to withstand strong winds guaranteeing materials are not compromised. In the wake of Hurricane Sandy, thousands of east coast residents and government officials and real estate developers started to consider temporary or permanent modular units for the first time here in New York City. OEM Commissioner Joe Bruno [phonetic] promoted the idea of modular housing for displaced New Yorkers. In New Jersey, a modular general contractor called M Space [phonetic] provided temporary classrooms to the

Long Beach Island School District and in North Carolina another modular company called Agility worked to provide modular temporary space for employees in Charlotte. The word temporary goes through that little paragraph there, but the trend is changing as we heard recently from Forest City Ratner Companies and we are very pleased about their partnership with the building trades and at ABNY we are grateful that Forest City Ratner is bringing the vision of prefabricated construction to the Atlantic Yards project. Modular building is cheaper, safer and greener than traditional construction and it's clearly a critical component of the future of building throughout the nation and the city. Thank you very much.

CHAIRPERSON DILAN: Thank you. At this point I am going to defer to Council Member Mendez, who has been waiting patiently for questions, but still would like to ask that members just keep it directly to a question and short leads. Council Member Mendez?

COUNCIL MEMBER MENDEZ: Thank you, Mr. Chair. There is a project that is being proposed in my district that has not yet been

approved and my entire district was affected by super storm Sandy and large portions of Zone Z and Zone B were flooded and this particular project is being proposed in Zone B. How would flooding or any other aspects of a storm affect this modular housing?

CHAIRPERSON DILAN: I think it's directed to Capsys - - .

COUNCIL MEMBER MENDEZ: Capsys I understand is part of this group, so there we go.

WILLIAM MCSHANE: Okay. Bill McShane. The project itself, the proposed project in your district we are part of? Do you know which project it is?

COUNCIL MEMBER MENDEZ: It's the one that is going to be announced later today - - details. Okay.

[crosstalk]

CHAIRPERSON DILAN: Just for clarity for the public, Capsys was awarded the micro housing units that the mayor was doing. It is being awarded in a flood zone, so that is an appropriate question, and it's an indicator that modular is indeed going to be more than just one

project in this city, so I believe it's a very appropriate question, but just for disclosure as to where she is coming from, that is where she is coming from for the benefit of everybody else.

COUNCIL MEMBER MENDEZ: I didn't know if the announcement was official. - - done later, so I didn't want to give any specifics.

WILLIAM MCSHANE: Yeah, I just got a call a couple of minutes ago myself. Well, thanks for the question, and how does modular construction compare to traditional construction in flood zones? It's a stronger construction type. The way that we build is stronger than your traditional construction for like a one, two, three family buildings. It is very similar to traditional steel and concrete construction we build out of structural steel with a three inch concrete slab, tube steel columns, - - steel framing, so it is virtually identical in materials and methods to traditional construction; it's just the process of putting it together, and then as far as flood specific requirements for flood hazards, we would follow anything that was required by FEMA's coastal construction manual or

the building code.

COUNCIL MEMBER MENDEZ: So a lot of my buildings are standing and in good shape, but then inside there was a lot of damage and a lot of mold and some buildings had some foundation issues. What if anything can you say to that in terms of modular construction?

WILLIAM MCSHANE: I think that there are foundation issues are probably a large component of the flood damage, which we have the modular construction has no impact on whatsoever. The foundation is built virtually the same modular or not modular, and the materials inside are pretty much identical, so when you refer to like gypsum wall board, we would have gypsum wall board in a site build building or in a modular building. The way we build might lend itself to let's say light gauge steel framing as opposed to wood framing, so it would stand flooding much better. So the materials and the methods are pretty much exactly the same.

COUNCIL MEMBER MENDEZ: If it got flooded, would it create more mold? We are having a big mold problem in some of my public housing,

which is standing and strong, but is having mold issues.

WILLIAM MCSHANE: I think the mold issue would be directly related to the gypsum wall board and not necessarily how it's actually constructed, so you can install mold resistant gypsum wall board.

COUNCIL MEMBER MENDEZ: My last question, Mr. Chair. Any issues between the difference in the heights of the building if it's a lower scale building or a taller building?

WILLIAM MCSHANE: Because of the nature of the modular construction in terms of the height, the floor to floor height or the overall height of the building?

COUNCIL MEMBER MENDEZ: The overall height of the building.

WILLIAM MCSHANE: As far as the construction goes, when it relates to modular construction as you get higher, there is additional bracing for lateral loads from wind and seismic loading, so when it's two stories, it is not the exact same lateral system that it would be when it's 11 stories.

COUNCIL MEMBER MENDEZ: Thank you very much.

CHAIRPERSON DILAN: Thank you. I have a question also for Capsys. Just a little bit on background in terms of what you have constructed in the city, so at this point you have done mostly low rise and it sounds like it up to 12 units. Do you also construct the one and two family homes? Is that part of your - - -

WILLIAM MCSHANE: [interposing]
Yeah, we started with one family housing project in east New York - - two project west of Pennsylvania where it was 700 single family houses.

CHAIRPERSON DILAN: Council Member Barron's district?

WILLIAM MCSHANE: I believe so, yes.

CHAIRPERSON DILAN: So then just enlighten us. We asked the same questions of Forest City Ratner for the high rise. How is your approval process different on the low rise on modular versus traditional construction?

WILLIAM MCSHANE: Well, it would

1
2 vary from job to job, but I'll use an example of
3 the job we are doing right now and the job that
4 follows it. The current job that is in the plant
5 is three story, three family buildings in the East
6 New York section of Brooklyn that are for the
7 Cypress Hills local development group.

8 CHAIRPERSON DILAN: This sounds
9 like my district, man.

10 WILLIAM MCSHANE: Oh okay. So... 315
11 Jerome and 525 Lynnwood. They are actually almost
12 done right now, so we are an approved fabricator,
13 so we are exempt from special inspections from
14 having a third party special inspection agency
15 come into the plant to perform those inspections,
16 so when the documents are submitted to the
17 Building Department, they indicate that they are
18 using modular construction and the fabricator is
19 Capsys. We are then required to submit a
20 certificate of intent to fabricate to OTCR with
21 the Building Department and then upon completion
22 of the job we have to submit a certificate of
23 compliance and in the interim we have during the
24 course of the construction we are monitored by a
25 third party engineering firm or inspection agency

that is approved by New York City Building Department that comes in to ensure that we are complying with all of the provisions of our quality control manual and our approval from New York City. There are a laundry list of items on those inspections. I am sure that our internal inspections are well above what is done on a traditional construction site, and then we additionally have a third party plumber and a third party electrician to come in for some oversight to do inspections - - .

CHAIRPERSON DILAN: So just in terms of your market as the end user, who traditionally is it, and what makes your product attractive to them versus a traditional construction? And that will be my final question.

WILLIAM MCSHANE: Our market is for the most part buildings that are up to 12 stories with highly repeated elements, so the job that follows the Cypress Hills job is a hotel. There's 130 hotel rooms and they are almost all identical.

CHAIRPERSON DILAN: No, no, in terms of the end user, like who are they?

WILLIAM MCSHANE: Oh, who are the

people who use them in the end?

CHAIRPERSON DILAN: in terms of the housing—if you are doing largely housing, like who are we talking about? Are we talking about non-profit groups? Are we talking about regular citizens? Are we talking about—

WILLIAM MCSHANE: [interposing] The majority of our work has been non-profit groups.

CHAIRPERSON DILAN: --healthcare facilities. Non-profit groups then that are being marketed to everyday New Yorkers, is that correct?

WILLIAM MCSHANE: Yeah, the bulk of our work has been. I would say more than 85 percent of our work has been to for non-profit groups. Yes.

CHAIRPERSON DILAN: Okay. Thank you, and if there are no other questions, we'd like to thank you all for your time and testimony. Okay, so next we will have Mr. Stew O'Brien, Mr. John Murphy, Mr. Arthur Klock, and let me see. How many chairs do we have up there? Four? And then we will go with—what we will do is we will have you guys together. Is there another - - that I could bring, and then the next will be Bertha

Lewis, Peter Nagy and - - I always pronounce it wrong, Ismene Speliotis. You can correct me. What we will do is we will add Mr. John Villafane to this panel from the National Electric Contractor's Association. So John, if you could come join this panel, and then we will add one more person to the succeeding panel. So why don't we begin with Mr. O'Brien, and then we go can go forward?

STEWART O'BRIEN: Mr. Chairman, thank you very much for inviting us here today. My name is Stewart O'Brien, executive director of the Plumbing Foundation. I just want to preface my remarks following the Forest Ratner presentation on three things. One is make it very clear that we are not just talking about Forest City Ratner doing work in a fabricator in Brooklyn. The next is going to be-

CHAIRPERSON DILAN: [interposing]
To make it very clear, neither am I.

STEWART O'BRIEN: Okay, and so, but I mention it because in that nice slide show we talked about this is new business opportunities. We you are taking about doing this fabrication

work in Kentucky. You are talking about losing construction jobs. You may not be talking about here, but that was somewhat misleading. And the third thing is we are not only talking about affordable housing, we are talking about opening up the door for commercial and hospitals as well. So I just want to preface my remarks in that regard. The licensed plumbing contractor industry is supportive of new technologies and practices. The use of high rise modular construction in residential, commercial and in institutional settings should be evaluated primarily in terms of safety. It should also though be evaluated in terms of economic and practical terms. Sometimes developers promote lower quality practices or materials, which may do well in the short term, but 15 to 20 years later when the builder is long gone, the cheaper materials and practices lead to increased costs. The increase maintenance costs then fall to the existing renters or co-op condo owners. Whether very short term and modest savings achieved during the period of construction outweighs any long term increase in maintenance costs shorten building longevity compared to

regular construction is beyond our expertise. We leave that to the independent experts who should have already evaluated those costs over the lifespan of the building. Hearing here today from DOB, I'm not sure that evaluation has ever been made. We do note however that the 32 story building currently being constructed in Brooklyn is the first high rise building constructed in New York City and we believe it is the first mega high rise building constructed in the harsh climate of the northeast. The Council should request documentation whether there have been any other 20 or 30 story buildings constructing using modular building techniques where the climate routinely ranges from zero degrees in the winter to 100 degrees more in the summer. Whether those repeated temperature swings over the course of 20 or 30 or 50 years will impact the longevity and maintenance costs of the structure should be reviewed by someone. While structural building practices and the public policy issues regarding whether the use of lower quality building techniques should be used to increase the profits of developers required to build affordable housing

are not within our area of expertise. We do though have the utmost interest in assuring that plumbing in New York City is safe and complies with code. Plumbing work not only includes water distribution lines, sanitary systems and venting, but also involves the insulation or repair of natural gas distribution lines and medical gas, oxygen and nitrous oxide piping. To ensure that this work is done safely the city requires licensing. With respect to plumbing to obtain a license one must have at least 7 years of experience in the trade, pass the city administered written test, pass the city administered practical test and provide documentation including worker's compensation and general liability insurance. There are two licensing models. One is to require that each person doing the work be individually licensed. As recognized by every mayoral administration that is virtually impossible to do in New York City. The other model used in New York City for over 70 years is to license a firm; there are some 1100 licensed firms that do plumbing in New York City. The licensed firm employs trained personnel and

the firm is strictly liable for any errors committed by its employees. To assure proper oversight and accountability and responsibility, the New York City building code Section 28408.1 requires "that all plumbing work be performed by a person working under the direct and continuing supervision of a licensed master plumbing firm." Code Section 28401.3 defines direct and continuing supervision as responsible control exercised over individuals in the direct employ--and I'll repeat that--in the direct employ of the licensed firm. That section then goes on to define direct employ as to when an individual is on "the payroll of such a licensee or business." It is therefore very clear that today as it has been for decades that the people performing plumbing work must be in the direct employ of licensed firms which are then accountable and responsible for their employee's work. The city administration has changed that code requirement. In April of 2011, the Department issued a bulletin which seemingly allowed employees of non-licensed firms to perform plumbing work in large units being fabricated in a factory and later assembled into high rise

residential buildings or any kind of buildings. Unskilled, unlicensed individuals would have been permitted to perform work in Brooklyn and New Jersey and Kentucky and that plumbing work would later be lifted in place as for example the 28th floor of a building. The use of non-licensed personnel to perform plumbing work in high rise buildings was never permitted before. We brought this error to the attention of the Department of Buildings in a meeting with them on December 19th, 2011. Attending were representatives of licensed trades, many that you see here today and the highest ranking officials of the Department of Buildings including some of the people that were sitting at this table not too long ago. DOB states that it was not its intent to change the clear provision of the New York City building code that the people doing the work in factory anytime you do plumbing had to be employees of licensed firms. That is what they said back in the meeting on December 19th. DOB said it would reissue the bulletin to make clear that plumbing work must be performed by employees of licensed firms. Over the next 12 months though we repeatedly requested

the issuance of a revised bulletin or if DOB had changed its mind an explanation of why DOB thought that high rise modular construction was exempt from the direct employee code provisions. DOB did neither. Instead a 32 story building is being constructed in Brooklyn where the plumbing work is being performed by employees of the developer, not a licensed firm and not under a licensed firm's continuing supervision. DOB is allowed this to happen and has never explained why. I hear the questions today--give me the code section of where you get this authority 'cause I read you the code sections where it is very, very clear when you asked them for the code provisions where they could say this could be done in Kentucky by unlicensed people, I never heard an answer. All I heard was their ATCR unit approves it. There is no code section that has ever been cited. The code is the code. If DOB, a developer, a trade group or anyone else wants to change the code, they should appear before the Council and make an argument. Code change should not be changed in closed door private meetings. The issue is not limited to high rise residential buildings. If

the code provisions can be circumvented for residential construction it can be circumvented for commercial and institutional buildings as well. We respectfully therefore request that the Council determine why DOB is allowing licensed work to be performed by unlicensed people in clear violation of the code.

JOHN J. MURPHY: Good afternoon, Chairman Dilan and members of the Committee on Housing and Buildings. My name is John J. Murphy. I'm the business manager of Plumber's Local 1, the largest plumber's union in the United States and Canada. We represent some 6,000 unionized plumbers in the industrial, commercial, residential sectors of plumbing service and construction industries. At the outset of the testimony I just want to thank you for holding this important hearing to more fully consider the ramifications of what could be, a sea of change in the way of plumbing systems that are to be installed by workers who are not in the direct employ of and not under the direct supervision of a New York City licensed master plumber. As you know, I am joined here today not only by my

brothers and sisters in the labor movement from Steamfitter's Local 639 and Local 3 IBEW [phonetic], but also by our management counterparts from the Plumbing Foundation, the Mechanical Contractors' Association and the National Electrical Contractors' Association. I think our remarks will all demonstrate our common concerns for the safety of the general public that will be living with systems in buildings that will be installed by workers who may not have the experience in their respective trade, are not working under the supervision of a license holder in addition to the integrity of the structures that may be built using modular construction. It hardly needs to be stated that high rise modular construction is vastly different than traditional onsite construction and presents both advantages and disadvantages. With traditional onsite construction a highly skilled journeyman plumber working under the direction of a licensed firm will install water, waste and venting systems in addition to natural gas and medical gas piping and related plumbing fixtures. With the modular construction model an entire plumbing unit would

be constructed offsite in a factory setting by line workers who have been cross trained to assemble component parts of all types. Workers can be installing plumbing systems one day and electrical systems the next. A completed module would then be later transported to the construction site for installation. As the head of a labor organization this shift is potentially worrisome in that it has the potential to turn a very highly skilled trade that takes years of training, practice and experience into unskilled assembly work. Additionally this shift may come without adequate consideration of the quality, the integrity or the lifespan of the products constructed by this new method. Our - - Plumbers' Local 1 begin their membership in our organization by mandatory participation in and graduation from a five year certified and accredited joint apprenticeship training program. The program requires participants to have more than 10,000 hours of on the job practical experience and more than 1,000 hours of classroom training. Our training does not stop once an apprentice has graduated to a journeyman. Continuing education

classes are routinely offered to ensure that members stay abreast of the latest changes and innovations in the plumbing industry. By contrast pursuant to a bulletin issued by the New York City Department of Buildings in April of 2011 never rescinded or amended employees of non-licensed firms would apparently be allowed to perform plumbing work in factories where components of prefabricated buildings were constructed. As Mr. O'Brien has explained this is directly contravened by the provisions of the New York City administrative code that govern the licensing of firms performing plumbing work design to ensure quality and safety for New Yorkers. Finally consideration must be given to the potential loss of skilled jobs here in New York City. Now earlier today Forest City Ratner who mentioned the project is going to be fabricated here in New York mentioned that wages were maybe 15 percent less. 15 percent less of other factory workers, not 50 percent less, 70 percent less. A journeyman plumber that would be installing plumbing systems is making 70 percent less, no apprenticeship requirements, no requirements whatsoever In fact

if the plumbers weren't involved, they would train somebody else to just install the plumbing systems. By allowing the installation of plumbing systems without the required licensing and requisite training, the city opens the door for this model to be duplicated in any municipality, in any country and shipped back to New York. We have all seen the devastating impact on communities throughout this country—just go through upstate New York and you see the grand main streets and the beautiful buildings that no longer have any life because all the good paying jobs were shipped out of state. It's profit driven. On behalf of the 6,000 unionized plumbers in New York City, I respectfully urge that this Committee and the full City Council demand that the DOB respect one the restrictions that Council has seen fit to put in place in the administrative code with regard to the licensing of skilled trades; two, the quality of work produced by skilled, trained, union tradesmen and women and three, its own mission to advance the safety of the citizens of this city. Thank you very much for your time.

CHAIRPERSON DILAN: Thank you.

ARTHUR KLOCK: Good afternoon, Chairman Dilan, members of the Committee on Housing and Buildings. My name is Arthur Klock. I am the director of training for Plumbers' Local Union Number 1 Trade Education Fund. The Trade Education Fund operates a 40,000 square foot training center in New York City out in Long Island City, which is dedicated to the education of journeymen and apprentices in the craft sciences and skills of plumbing. My area of expertise is in the training and certifying the workforce in the plumbing industry. The education fund that I work for is a joint labor and management education program, which spends over \$3 million each year to train a diversified group of nearly 400 young men and women to become installers and maintainers of plumbing piping systems in New York City. Additionally, we provide continuing education classes to update the skills and safety training of thousands of journeyman plumbers so they can continue to work efficiently, safely and stay up to date with the latest codes and technologies. The average New Yorker has no idea that millions of dollars of

private money is being spent each year in order to train our future and current workforce of plumbing installers and maintainers. They just know that when they turn the faucet handle or push the toilet handle, everything works. Apprentices in our training program spend five years training to be recognized by the New York State Department of Labor as a journeyman plumber. We are talking about 1,000 hours of classroom training and 10,000 hours of on the job training as Mr. Murphy pointed out working under the supervision of a licensed master plumber all the time. The training is serious enough that the State University of New York awards 40 science and math credits to Local 1 apprentices based solely on the work they do in our program. This education is not excessive. It is absolutely necessary to conduct the work of a journeyman plumber. Our training center provides backflow prevention device tester training to all of our apprentices and many journeymen for compliance with New York City's Department of Environmental Protection and New York State Department of Health Regulations. Our training utilizes the American Society of Sanitary

Engineering's national standards. Under these standards our students need to have five years of work experience under the supervision of a licensed master plumber in order to be certified. Medical gas systems installed in hospitals in New York City under National Fire Protection Association's standards require that plumbers doing the work pass additional training and testing and have a minimum of four years of work experience under the supervision of a licensed master plumber. In order for one of these highly trained journeymen to become a master plumber, they must first pass written and practical tests and a background investigation and be recognized by the New York City Department of Buildings as a registered journeyman. This required documented proof of years of work experience under the supervision of a licensed master plumber. By this point in my testimony, I am sure you can see a pattern developing—supervision by a licensed master plumber is an integral and necessary part of the system of checks and balances which make the plumbing industry in New York City function safely. Since the middle of the 1800s the city of

New York has recognized that poorly installed plumbing is one of the greatest health dangers to an urban population. We learned the hard way that the only way to guarantee proper work was to license the master of each plumbing company and to insist upon constant supervision holding one person ultimately accountable for the installations done by their employees. Plumbing work is a highly technical work. It requires trained professionals working under constant supervision--the New York State Department of Labor. The State University of New York recognized that. The American Society of Sanitary Engineering and the New York City Department of Environmental Protection and the New York State Department of Health recognize that. The National Fire Protection Association and the New York City Health and Hospitals Corporation recognize that. By licensing master plumbers, the New York City Health Department and subsequently the Department of Buildings have recognized that for more than 100 years. In April of 2011, somebody failed to recognize that. A bulletin was issued by someone at the New York City Department of Buildings. It

indicates that it will be just fine for employees of an unlicensed company which is not owned or supervised by a licensed master plumber to have workers with no documented training or documented experience install drinking water piping, sanitary drainage piping, vent piping, assembling and install plumbing fixtures and presumably do anything else that plumbers do without any of the safety checks and balances that have served us so well for so many years. I respectfully ask that this Committee and the New York City Council require that the New York City Department of Buildings rethink their bulletin which allows unskilled workers and unsupervised workers to install plumbing. They must recognize that we have a set of laws called the administrative code, which they are required to comply with just like everybody else. This is about maintaining our health and safety in a dense urban environment, maintaining our high standards for a skilled workforce and maintaining the rule of law. Plumbing installers must be employees of a licensed master plumber and must be supervised by that licensed master plumber. Thank you.

JOHN VILLAFANE: Good afternoon, Chairman Dilan and members of the Council. Thank you very much for having me. My name is John Villafane. I'm a partner and license holder and Eldor Electric LLC. I'm a member of New York Electrical Contractors' Association. We have over 300 members firms who employ over 15,000 men and women, and it is on their behalf that I speak today. While I recognize new construction methods and the role that technology has played in development of our industry, I am reminded of the extensive training and education I received in the electrical apprenticeship program. Without it, I would never have had the skill level needed to install an electrical system safely. Section 27-310 of the 2011 qualifications and examination of applicant for master electricians and special electricians license in New York City code states in part and I quote "an applicant for a license as a master electrician or a special shall have had during the ten years"-ten years, just make a note of that-"immediately preceding his or her application at least seven and a half years of equivalent and during such time a minimum of

10,500 hours or the equivalent as satisfactory experience in the installation, alteration and repair of wiring and appliances for electric light, heat and power in or on buildings or comparable facilities. Such satisfactory experience must have been obtained while under the direct supervision of a licensed master electrician or a special electrician with respect to the experience outside the city under the direct supervision of an individual with comparable qualifications as determined by the commissioner and while in the employ of one, a master electrician's business, two, an individual partnership or corporation owning, leasing or managing a building or buildings or part thereof, employing a special electrician to perform electrical work in or on specific buildings and individually partnership or a corporation deemed acceptable by the commissioner no more than 25 percent of such satisfactory experience shall have been given while working outside of the United States. The code goes on to explain which education is counted toward credit for experience in order to qualify to take the test. Therefore,

it is evident that the city of New York is counting on a special person with this unique set of skills and depth of educational knowledge to make the final determination and have full responsibility for the manner with which electrical work is done. Why then would the Department of Buildings choose not to enforce the electrical code when it comes to modular housing? Let me try to explain that. On June 1st, 2012, New York Electrical Contractors' Association wrote a letter to the Department of Buildings suggesting to modify the electrical application to include among other things, a new box titled Article 545. The justification was that this new box will alert the Department of Buildings that a "manufactured building"—that is modular housing's technical name in the code, the authors of which devoted a section to ensure compliance—"will be properly inspected at the site of fabrication."

Specifically in the electrical code Section 545.3 states approval of all wiring within manufactured buildings including branch circuit wiring shall be subjected to the installation and permitting requirements of the code. Permitting requirements

means just that. The modular housing must be filed for prior to any electrical work being installed. An electrical work permit must be pulled in order to do electrical work. The responsible person as I described above would oversee this work to be in compliance with the code. That is the rule. The response we received from the Department of Buildings was "since DOB will not be inspecting manufactured buildings at the location where they are fabricated there is no need to capture this information on - - 16-A application." I ask at this time if this group of distinguished professionals meaning Department of Buildings would revisit that position taken. Understand that Article 545 manufactured buildings when written took into consideration that yes, the buildings will be built offsite. That is why it is called manufactured buildings, and there is a section in the code devoted to this. New York City knew when writing the code that this type of building must also be governed by the electrical building code because it was going to be built offsite and they wanted to make sure the building was in compliance. Let me add that these

buildings or modular housings are not widgets. They are not sitting on a shelf built at random waiting for a customer to drop by a window and just buy a few. They are first designed by professional architects, they are subsequently engineered and finally drawings are submitted to the Department of Buildings for review for a building, not a widget. High rise modular has never been done in the United States. We don't know if this can be done safely. Proposed buildings in the city are to be 34 stories and higher. Our association has concerns over this. The only history we have to go on are one and two family homes and three story prefabricated buildings, which you all heard earlier had issues with sinking from Councilman James, Ms. James. Miss James. Excuse me. What might be problems with 34 story buildings? We simply don't know. We have shared safety concerns in the interest of homeowners and for the general public. We cannot afford to practice on a 34 story building. It is the responsibilities of the Department of Buildings to enforce their own rules on the site of fabrication simply because that is the nature

of Article 545. The code states that it will be built offsite. We simply wish to have a way of alerting the inspector that our work will be inspected at a different location other than the actual address. Thank you.

CHAIRPERSON DILAN: So I want to begin by thanking all of you for your time and testimony, and this is kind of the dilemma that we are in is how do we find cost savings to build affordable, so that there is a place for certain New Yorkers who can't afford to live here anymore regardless of race. How do we afford to keep these type of individuals from a lower income bracket in the city where they grew up in and where they love? The argument that you can make on one side is you reduce labor costs, and the argument that you make on the other side of the argument is sure, you want affordable housing, but you also want it to be safe, and that is the dilemma that we have. We also are concerned definitely with the Buildings Department violating its own code, which is why I specifically slowed down earlier when Tom Fariello gave me the answer that we assume that it is being done, and then his

1
2 general counsel clearly stated that it was not.
3 So at the time I knew it was a clear violation of
4 the code that they had got into, and you gentlemen
5 in your testimony illustrated that and how we
6 handle that will be a question as to how we deal
7 with this going forward. Certainly we wanted to
8 gather all information. We don't want to
9 jeopardize affordable housing, but certainly if an
10 unlicensed plumber goes out there and violates the
11 building code on a conventional unit, they are
12 going to receive a hefty fine as you will know, so
13 compliance of the code to me involves all entities
14 including the New York City Buildings Department,
15 so my question to you guys is why do you think
16 this came to be?

17 STEWART O'BRIEN: Well, all I can
18 tell you is in December of 2011 when we all met
19 with the Buildings Department, they said you are
20 right. We didn't mean it that way, and the work
21 has to be done by employees of licensed firms, and
22 you have got to remember the cost savings when you
23 put up a building if there are 100 people working
24 on this site, there are only three licensed
25 trades—one, two and you are going to hear from

another one—the fire suppression contractor, right? Because the city says, listen, the painter doesn't need to be licensed. The sheet rock guy doesn't need to be licensed, but there are three that are so important that they are licensed trades and the safety has to be there, so when we are talking 100 employees out at the site, and I'm just making up the number, it's not like all three are plumbers, electricians and fire suppression contractors, so the cost savings if you require as the code does that says these guys, they are so important they have to be under the supervision of licensed firms is not going to change the cost that much. It's not going to change the cost that much because the cost savings they talked about of bringing in and trucking it and the speed and all that other stuff, that will all be the same. We are just saying if you comply with the code as it presently says for safety reason you have got to use direct employees, the cost savings is going to be changed minutely. We are just saying comply with code because the code does that for safety reasons. In terms of why the Chairman you asked, all I can tell you is after that meeting when the

city told us you are right, the work has got to be done by employees of licensed firms, we went out some of our contractors said, oh yeah, Forest City Ratner reached out to us and they said, no, no, no, we took care of that at the Department of Buildings. Only the site work has to be done by employees of licensed firms. Clearly, there was interaction between the developer and the Buildings Department on it to change how the read the code. I don't think it's a matter of interpretation. The code is very, very clear. The fact that we asked and the fact that the Buildings Department told us, yes, you are right, and then for a year we asked them orally and in writing, well, tell us. Change it. Tell us why you changed your mind. They never did. All I heard today was a lot of tap dancing. I didn't hear a straight reason. I heard some analogy of when you put these components apart and they talked about them that is like a boiler, and a boiler can be made in Kentucky. This isn't a boiler. This is a unit with life safety systems in, right? Electrical work, plumbing work, fire suppression work. You can't change the code.

That is what you guys are for. They wanted to change the code, they should have come before you and said we want to change the code.

CHAIRPERSON DILAN: Well, and that part was clear. I think I was being more tactful and more diplomatic 'cause I knew that there was a potential for the whole—I wanted things to proceed in the order that they did proceed in, but Council Member Lander I think was great in pointing out what exactly was in my mind, and hit it pretty well, so we will certainly revisit with the Buildings Department. Now conversations allegedly between Forest City Ratner and the Department of Buildings or the administration I can't speak to because I don't know if they occurred, but what I do see occurring is clear non-compliance of the code, and we will ask the Buildings Department and the Mayor's Office why they think this has occurred because I think it should be corrected, and again, my intent is to keep affordable housing. I don't want to—there is plenty of people in my district that could benefit. I don't want to ruin their opportunity and like every other trade, I ask you, I want to ask you guys

about your apprenticeship programs as well because the worst thing for anybody is to see something come up in your district and there is nobody from your neighborhood getting the work. In this case there will be nobody not only from your neighborhood, but potentially not even from your state. So if you guys could just elaborate briefly on your apprenticeship programs and what type of opportunities are out there for New Yorkers that would love to be in a union, but just want to get access to it.

JOHN J. MURPHY: Thank you, Mr. Chairman. Our apprenticeship program we usually give out applications once every two years.

CHAIRPERSON DILAN: Go ahead, Mr. -
- .

JOHN J. MURPHY: We give out applications to our apprenticeship program. In fact I'll ask the instructor of training to elaborate more on the process of the apprenticeship program, but to be clear that the people that would be working in this facility are not part of the apprenticeship program. They could not be. Most of them are service type

people that might have a little experience or no experience and are trained just to put together components. Today you are on plumbing. Tomorrow you are doing some carpentry. The next day you are doing electrical systems.

CHAIRPERSON DILAN: That part, Mr. -- I got that, but what I do want to say and look, understand I want it to be built safely. That person could be my constituent--could be. They are not a licensed person and that is clearly against the code, but that person could be my constituent. I don't want to take their job away, but at the same time the law requires that it be built a certain way and that is the law whether I want to take their job away or not, so aside from that being the practice, and this is not a hearing obviously on apprenticeship programs, I just wanted the brief question on how does one become an apprentice.

ARTHUR KLOCKS: The apprenticeship program is an open program. We have based on the needs for the population--in other words the worker needs--the committee that runs the program authorizes us to give out applications. It's

usually once every two years, and the last few years what we have done is give out applications, we limit it to 1,000 because of the tremendous amount of paperwork that is generated, but anybody can come and get on line and get an application. When we give out 1,000 we have to stop, so we go that once every two years. We have open recruitment. We advertise out on our website, on the Department of Labor website and we spend the money to put it in the New York Post and the Daily News, and we get a tremendous response. We usually get more than 1,000 people. Our program always meets its equal opportunity goals. The only area that—and that is without trying because we are in New York City, so when we put out an open recruitment we get every kind of person lined up outside trying to get in, and the only place we come up a little short is in female representation and we partner with nontraditional employment for women to bring females to our program.

CHAIRPERSON DILAN: It sounds like there might be a national movement to change that in every trade and profession, so we will wait to see how the national elected officials handle

that. And for the electrical workers, is it a similar—

JOHN VILLAFANE: Yeah, ours is very similar to theirs and we also get thousands and thousands of applications. We also work the New and Helmets to Hardhats. We are constantly reaching out to the communities, but it is open. It is also subjected to collective bargaining agreements, and as of now I believe there is a need, a great need for apprentices and yes, the community that we work in is welcomed. That is part of the percentages that they take in,

CHAIRPERSON DILAN: Yeah, and the reason why I saw the relevance because everything that we are talking about here reflects all the employment of the modular industry is an important factor, so I want to know that if a change is made that there is opportunity for regular New Yorkers regardless of race, regardless of an income to become a licensed professional so that they can also enjoy the growth of an industry as everyone else wants to. That is the relevance for the question.

ARTHUR KLOCKS: I just want to say

one thing. These gentlemen are someplace else when I am in the school with the apprentices. These young men and women that come into this program a lot of times are struggling to find a way into the middle class, and they are struggling to find a way to survive in New York City like everybody else is, and you know how hard it has been for kids coming out of college and kids coming out of high school. It's been awful.

CHAIRPERSON DILAN: [interposing] I represent a lot of them. I know.

ARTHUR KLOCKS: If modular construction takes these jobs to other states and to other countries 'cause that the next step—that modular will be Greece in a shipyard and shipped over here on a boat and we will watch it be unloaded in Port Newark. The bottom line is that those routes that now exist to take people into the middle class and provide - - , they are going to be shut down 'cause there is no apprenticeship program in that factory.

CHAIRPERSON DILAN: [interposing] I get all of that. I think what I am saying, and I'll be as diplomatic as I can is I don't want to

get into a situation where we prevent the jobs from going to Greece and Italy or wherever prevent them from going to Kentucky and they stay in New York City, but the jobs are in Westchester, Long Island and not in the city of New York. Now I'm not saying that that is what you guys are - - . It's not what I'm suggesting, but I just want to know in general and you guys answered the question that there is--what is your process for New Yorkers to get access. I don't want to go too far off topic. I think the answers were sufficient, but I just wanted to get that on the record before I did that, and there are some other questions specifically to modular, so I will get back on topic by going to Council Member Crowley followed by Council Member James. Council Member Crowley followed by Council Member James, and I do have to make a quick announcement that if anyone here is here for the Civil Rights Committee that that Committee will be held in the chambers. I think everybody is in the right place, but I just want to make that announcement just for recordkeeping. Council Member Crowley?

COUNCIL MEMBER CROWLEY: Thank you

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2 to our Chair and I do realize that there are good
3 jobs. The jobs of an electrician and a plumber,
4 but they are not an easy trade to learn. As you
5 mentioned, the plumber's program is accredited by
6 the state at least 40 college credits. I imagine
7 that they are difficult classes that one takes in
8 addition to the number of years you have to work
9 in the field before you are a licensed plumber,
10 electrician or within fire suppression. I think
11 is what is really important here today—that we
12 need to make sure that building today, tomorrow
13 and to the future that we are building the city
14 sage. And yeah, jobs are important but I think
15 people's safety comes first. That is why I guess
16 this leads up to the question that I have—if
17 modular building was to and it should have the
18 licensed plumbers and the licensed contractors
19 doing the work, is there a way that your industry
20 could work in the modular business as long as you
21 have the professionals on those factory sites
22 doing the work?

23 STEWART O'BRIEN: Absolutely. You
24 can hire some licensed firm and they would send
25 their employees to the licensed firm to the shop

and do the work in the shop. Even if it were true that you would need seven plumbers to do it if you are doing stick construction but only five plumbers if you were doing fabricated construction, that may be true, right? And then you may get some cost savings there, but if you want safety, that is what you should do. All we are saying is the code requires--the developer can hire just like they do now. If you are a developer and you're putting up a building in New York, you hire a plumber, you hire a licensed electrician, you hire a licensed fire suppression contractor. What's the difference if you are doing the plumbing in the Brooklyn Navy Yard should be hiring the same guy to do the work.

MALE VOICE: Council Member, we allow fabrication now. We do send employees to a company shop. They will weld, they will fabricate and they will ship it to the job site, but those workers work under the direction of that licensed firm, so it takes place right now.

COUNCIL MEMBER CROWLEY: Chairman, that is the only concern I have is if the code says they have to be licensed, how are we as a

city allowing this construction to happen if it's not abiding by our city codes?

CHAIRPERSON DILAN: I think they made that point clear, which is why I didn't have any questions on it because it's crystal clear.

JOHN VILLAFANE: I would just like to add to that is our code has a section devoted to what they call technically manufactured buildings. That is the section that covers modular housing, which we are talking about constantly, but the technical name of the code that they have addressed already is called manufactured buildings, Article 545, and they cover clearly the permitting process, which falls into our jurisdiction, which falls into DOB's jurisdiction, which in my opinion, DOB would be derelict in their duty if they don't enforce a section that they wrote.

CHAIRPERSON DILAN: We were aware of the section prior to hearing. So now my other question is clearly since the bulletin was done or maybe I got the wrong term, they have had a two-year window to promulgate rules. Why do you believe in your opinion that the rules have not

1
2 been promulgated at this juncture as it relates to
3 modular housing? Sorry, I would have let you have
4 it. Sorry. If you would have told me, I would
5 have shut up.

6 STEWART O'BRIEN: You know my
7 background. I was at the billings department for
8 many years and there is always sometimes--and
9 sometimes you have to speculate about what is
10 going on. The people of the buildings Department
11 they're not stupid, and they're not ill
12 intentioned, and we walked out of that meeting of
13 December 2011, they made it very clear to us.
14 They were going to enforce the law as the law was
15 written. Now they didn't do that. They never got
16 back to us after repeated times and I'm supposing
17 here that there was clearly some intervention
18 beyond the Department of Buildings to say time out
19 here that we don't want you to go that way. Where
20 that intervention was, that is a good question for
21 the Department of Buildings, but the people that
22 were sitting at the table today made it very clear
23 that they read the code the exact same way we did
24 and back in December of 2011 something or somebody
25 changed their mind and I can only believe it was

for cost saving reason. It certainly wasn't for safety reasons. It was for cost saving reasons.

MALE VOICE: Mr. Chairman, each and every time my organization had a conversation with Forest City we asked who are the licensed plumbing firm? They said, that has been worked out. Each and every time it's been worked out, so we are here today to find out with whom?

CHAIRPERSON DILAN: I certainly wouldn't know.

JOHN VILLAFANE: If it wasn't for my attendance today, Chairman, I have never heard of the bulletin in the electrical trade, so as far as I am concerned I haven't seen a bulletin. I haven't heard of a bulletin where there is some sort of exclusion to enforcing Article 545 of the electrical code.

CHAIRPERSON DILAN: I was aware of the bulletin prior to the hearing, but what I would also then say is look, thank you for your time and testimony. I don't think anybody on this Council and on this committee wants to kill affordable housing under any circumstance, so this is something that we will have to sort out and

find the reason why the decisions were made in the manner that they were made, but that will take a little bit of work. Council Member James?

COUNCIL MEMBER JAMES: So thank you, Chair. I too obviously am a major proponent of affordable housing desperately needed in my district and in fact am very much concerned about the safety overall with regards to this project because in fact it is in the middle of my district, but at the same time, I recognize that there is an incredibly need for affordable housing in downtown Brooklyn, but I think we have opened up a door here, and I am obviously concerned about what was mentioned by someone that jobs will be outsourced and shipped, and this is really an attack on middle class, an attack on the labor movement overall, so my question is we have established that the wages are going to be lower for construction workers who assemble these modular units. What about benefits? Less benefits?

JOHN J. MURPHY: Yes, less benefits. The benefits are not taken care of through the local unions, but through Forest City

Ratner, but as I have mentioned a lead person on this assembly makes at least 70 percent less than a building trades journeyman onsite. 70 percent.

COUNCIL MEMBER JAMES: And so are you gentlemen continuing to have discussions with DOB? Where are we now? What happens now? Obviously the City Council has to do our job. Where do we go from here?

JOHN J. MURPHY: My organization has had at least two meetings that were postponed by DOB. We keep requesting additional meetings. Hasn't taken place so far.

STEWART O'BRIEN: After that meeting in December, we waited, we followed up with them, we e-mailed them, we called them. Ultimately, I ended up calling the commissioner and saying Bob, you know, give us an answer. Put it in writing. The code is very clear. Tell us yes, no and if it's no, why? Give us an explanation. Never heard. I think that is one of the reasons that we are here. We can't get an answer out of the Department of Buildings. We sat here today—I think I sort of heard an answer, but you know, when it comes to safety, I don't think

we should go on I think maybe this is like a boiler. That is the only thing I sort of heard today—a Jacuzzi. It was a Jacuzzi.

COUNCIL MEMBER JAMES: So I don't know. I'm not sure what I heard 'cause I came in late so in my mind I hear like this is an assembly line and as a result of it being an assembly line it's not regulated, it's not subject to the code?

STEWART O'BRIEN: They were trying to analogize that when you put a Jacuzzi together, right because there is a little plumbing in it—there is the little plastic stuff, and there is a little electrical component, and those made out in - - Wisconsin, that is the analogy they were making today is well, that work doesn't have to be done by a licensed electrician or a licensed plumber, so what is the difference? Well, there is a big difference, and if you can't see that, right, then I'm not sure I have a heck of a lot of confidence in the people that call. We are not talking about little components. We are talking about life safety systems.

COUNCIL MEMBER JAMES: So the bottom line is that we are compromising safety

from the bottom line?

STEWART O'BRIEN: When it comes to the particular sort of exempting modular housing from the requirements of the code that they be done by licensed firms, I think the answer to that is yes.

COUNCIL MEMBER JAMES: Thank you, gentlemen. Thank you. Thank you all. The Chairman had to go and vote at another Committee, and so I am standing in temporarily. The next panel will be Mike McGuire, Mason Tenders, Edward Walsh, the New York State Ironworkers, Bertha Lewis, the Black Institute, Peter Nagy from the New York Communities for Change and Ismene Speliotis, the Mutual Housing Assistance of New York. If you can all—if we can all assemble. I believe some individuals have already left. Is Mr. Walsh still here?

MALE VOICE: He left.

COUNCIL MEMBER JAMES: Mike McGuire?

MALE VOICE: He left.

COUNCIL MEMBER JAMES: So it's primarily Bertha Lewis, Ismene and Peter. Anyone

else? Okay. How about Anthony Saporito? Ismene, sorry. Sure, and Mr. Pat Dolan, steamfitters and Richard Roberts of the Steamfitters as well, so we have Rich Roberts, Mr. Dolan, Mr. Saporito, Ms. Lewis, Mr. Nagy and Ismene.

MALE VOICE: Mr. Roseboro is substituting for Mr. Nagy.

COUNCIL MEMBER JAMES: Okay. Skipp Roseboro. Okay.

MALE VOICE: Well, I'm a leftist, so we should go from the left to the right.

PATRICK DOLAN: Good afternoon, Chairman Dilan and members of the Committee. Thank you for inviting me here today. My name is Patrick Dolan, and I am president of the Enterprise Association of Steamfitters' Union Local 638. I am here on behalf of the 7,800 skilled men and women who through rigorous training and hands on experience perform design and installation of heating, air conditioning and fire suppression in industrial, commercial and residential buildings throughout New York City. In addition to my position at Local 638 I also serve on the New York City licensed master

plumbing and licensed fire suppression piping contractor license boards. In that capacity as the only current labor representative, I review along with my management colleagues including Local 638's signatory contractors, the applications of those applicants seeking to obtain their respective licenses. This has required my colleagues and I to ensure that perspective licenses meet all requirements imposed by New York City's license standards, which are central to maintain the skilled, adequately trained and experienced pool of licensed master plumbing and licensed fire suppression piping contractors. New technologies and techniques have brought us from caves and huts to luxurious homes and indoor pools and palace-like apartments which soar into the sky. We must also not forget the long road that carried us to where we are today did not come with failures and disappointments. As a society we minimized our failures and ensure that safety and security accompanied our progress by developing regulations, codes and license standards. That is why I am here to add my voice to those from organized labor, especially from Plumbers' Local

1, Local 3 of the IEBW as well as the management representatives from the Plumbing Foundation, the National Electrical Contractors Association and Mechanical Contractors Association. Our mission here today is to speak out and assure we preserve and protect those regulations, codes and license standards, which have worked and protected us so remarkably well. There has been great excitement throughout the real estate and construction industry since Forest City Ratner announced its plan to break ground on the tallest modular building in the world—a 32 story apartment complex, which the New York Observer has called “Legoland in Brooklyn.” That building is only first of what will be a 22 acre mega development in and around Atlantic Yards. This development and the technology behind it is only now possible because as Mr. Ratner told the New York Times, he cracked the code--the code that allows the stacking of prefabricated units to new heights while able to withstand wind shear and other forces. This development he said will cut costs and lead to more affordable housing. Those cost savings come by using terms of laborers who work

in a factory setting miles away, construct and install plumbing, electrical, ventilation and sprinkler systems—all necessary into a module. That module is then transported to a construction site, lifted, bolted into place and systems are connected. It all seems so simple. We ask how safe is simple? As I mentioned earlier, we have created and enforce our codes, regulations, experience and license requirements to ensure the safety of our buildings and the people who will occupy them. Now with the introduction of high rise module, we must ask where is the expertise? Where is the training? And where is the professional oversight? As the president of the Steamfitters Union Local 638, it is my responsibility to ensure that my members have been properly trained in a design and installation of fire suppression and piping systems. With me today and in the audience is also a group of our apprentices in our school, along with our training director, Tommy Goodwin and our business agent, Chris Sharon [phonetic]. How do we ensure those families who will be living in prefabricated modules on the 30th floor will have a properly

1
2 installed fire suppression system? The primary
3 obligation of government is to protect its
4 citizens. Today we can do that by protecting our
5 regulations, or licensing and building codes. We
6 are all for progress. We all know we need
7 affordable housing, but we also need to be sure we
8 do not allow a new construction model to crack our
9 building and especially to crack our licensing
10 codes as well. Thank you for this opportunity to
11 address the panel.

12 ANTHONY SAPORITO: Thank you,
13 Chairman Dilan and Council Members. My name is
14 Tony Saporito. I'm the executive vice president
15 of the Mechanical Contractors Association of New
16 York. The Association represents fire suppression
17 contractors as well as heating, ventilating, air
18 conditioning and refrigeration contractors, and we
19 also maintain a collective bargaining agreement
20 with Local 638 Steamfitters. We support progress
21 and innovation in our industry; however, the
22 safety and the equality of the construction is our
23 utmost concern. Our fire sprinkler contractors
24 are licensed and there are over 600 fire
25 suppression contractor licenses in the city of New

York, and I am going to skip some of the testimony because they were addressed by the plumbers as far as the sections in the building code, but our primary concern is that the building code is adhered to and all of the things previously testified, we haven't heard back, and safety is our concern, as well as, there will be a loss of jobs as you noted or as was noted earlier, Lynchburg, Virginia newspaper came out with the banker [phonetic] steel article that said they just hired 50 more people to do the fabrication for this particular project, and they have done other work for Ratner in New York City as well, and so that will continue as more and more modular projects come online. Again, adherence to the building code and following for a fire protection contractor, the direct employ under a licensed fire protection contractor is how we install fire protection systems and have not as long as the plumbing industry, but for many, many years, and so that is what we would respectfully request—that the building code be adhered to. Thank you.

COUNCIL MEMBER JAMES: Could you please forward to me a copy of that article

regarding Lynchburg?

ANTHONY SAPORITO: Yes.

COUNCIL MEMBER JAMES: Thank you.

RICHARD ROBERTS: Good afternoon, Council Members. My name is Richie Roberts. I am the business agent at large of Steamfitters Local 638. We represent 7800 steamfitters who install fire protection systems and that save lives. I don't have a prepared speech, but I do want to speak to you about history, and many words that—I'm fearful right now. I am honestly fearful that local laws that were developed in the '70s and '80s and '90s, local law 5, local law 10, local law 26—if we give the Department of Buildings the ability to circumvent our laws... Fire sprinkler systems were developed in the Brown Building at NYU during the triangle waste factory fire. 140 or more women lost their lives. That is when fire suppression systems came into play. Since then we have learned from some of our mistakes and then after we made some more mistakes we had to strengthen our laws. 1998 we had the Macaulay Culkin fire. December 18th—the day before that my house burned down. I had three beautiful

children—one in the stomach. We got out okay because of smoke alarms that were installed properly, so I speak from experience and I speak from also being down as the first responder at the World Trade Center and seeing that the systems that have developed since the tragedy at the World Trade Center that we did with fire suppression systems, with testing, having to maintain pressurized systems while the building was constantly going up. The fire in 2002, the Deutsche Bank fire where firemen lost their lives, a law came out of that. My concern is certainly the installation of the work going on in the factory that my contractors should not be responsible for somebody who is being able to circumvent the law and then when it comes on the job, my licensed contractor whether it's my licensed contractor or IEBW Local 3 or Local 1 has to sign off on that work. We are more than agreeable with community workforce agreements. We have reached out to the community in your district and everybody else's district, and said we are going to put people that live in that neighborhood we are going to put them to work, but I believe

1
2 this Council was lied to today. Business Manager
3 Murphy stated that they said it was 15 percent of
4 the work, 70 percent savings on that job. The
5 unions are a way out of poverty, a step into the
6 middle class. We are a guarantee of certain
7 rights, healthcare, pension, dignity. We have the
8 ability to give that. We are taking this work off
9 of that job site and putting it of which I was in
10 total disagreement in the beginning, but if we are
11 going to put people to work, we are going to do
12 it, but you got to take a look at the loss from
13 that job site. When you are talking about 50
14 percent of the workforce being taken off that job
15 site and it's going to be done cheaper and now
16 when you talk about bankers steel, and you brought
17 up the point that if this work was going to be
18 done and they said they couldn't do it in
19 industrial areas in New York City - - . Again, I
20 just don't like to sit here and be lied to, and I
21 think when they mentioned Helmets to Hardhats,
22 Non-Traditional Employment for Women and the
23 apprenticeship programs, that is not available to
24 them because they are not signatory to our local
25 collective bargaining agreements, so again, they

1
2 said that they had it. They didn't have it. I
3 want to be perfectly clear. I am all in on moving
4 forward, and the construction of these units
5 whether it be in - - but whether it be in your
6 district or in Pennsylvania Boulevard, wherever
7 construction is, the building trades are all in to
8 move forward with our communities, but when people
9 are going to turn around and-my grandmother said
10 what is good for the goose is good for the gander,
11 so you've got rules, you have to follow them. You
12 can't be big shot Mr. Ratner, God bless him.
13 Great builder and go to the Mayor's Office and
14 have rules change for him-

15 CHAIRPERSON DILAN: [interposing] I
16 have to jump in because I want to be careful here.
17 I don't know what happened. I don't know that
18 Ratner did that. I don't know that that is the
19 situation. I want to be clear.

20 RICHARD ROBERTS: I'm just making a
21 statement because it's my opinion where my
22 contactor has to have certain rules and
23 regulations, they have to follow them, and I'm
24 asking this Council that they follow the same
25 rules.

CHAIRPERSON DILAN: Well, I think
the only thing—

RICHARD ROBERTS: [interposing]
I'll retract the statement for Ratner. Thank you.

CHAIRPERSON DILAN: You are
entitled to say whatever you want to say, but I
just want to be clear, it's not the insinuation of
this committee or this chairperson that we know
that that happened, but what is clear is that the
Buildings Department is doing something in
violation of their code.

RICHARD ROBERTS: Erik, just on my
correction. I'm not looking for your endorsement
with what I said. My opinion about what happened
with Ratner is my opinion and my opinion only.
Thank you.

CHAIRPERSON DILAN: No, but I just
wanted to do that, and you're entitled to it.
Where are we?

BERTHA LEWIS: Thank you, Mr.
Chairman and the Committee members for allowing me
to testify at this hearing today. My name is
Bertha Lewis, and I am the founder and president
of the Black Institute. I am the former executive

director of New York Acorn, which is a signatory to the Atlantic Yards community benefit agreement. Subsequently, the Black Institute, Mutual Housing Association as well as New York Communities for Change have taken over the duties of New York Acorn under the CBA and its responsibility to the affordable housing component of the CBA. All three entities represent over 40,000 low and moderate income New Yorkers and Brooklynites [phonetic] that have been fighting for affordable housing for over 25 years and are proud supporters of the modular Atlantic Yards housing. There will be 2250 affordable units in the Atlantic Yards complex when it is finished, and I hope all of it is done in the modular way. The use of modular units on this scale has never been seen before and will change how we build not only affordable housing in New York City, but how we build, develop and view construction period. The Atlantic Yards project has been delayed for over eight years. 21st century modular construction will not only help us get some of those years back, it will allow us to have a more efficient quality construction and will finally bring back

manufacturing to New York with its home at the Brooklyn Navy Yard. This is not only exciting for the borough, but makes us competitive with the rest of the world. Modular construction has been done here in a very limited scale. We tried to talk to all of you about modular construction for affordable housing when it was on a limited scale, but I guess it was too small for you to pay attention to. I am very glad that you are here now because for over 20 years we have tried to have dialogue with all of you. Thank you, Mr. Chairman, for bringing them out. The effect on the environment is far less than conventional construction. The safety of workers is exponentially increased. Good union manufacturing and construction jobs with good wages and benefits are guaranteed with this new modular commitment. Each one of the residential towers that are being built will not only have affordable units, but luxury units as well. Everyone will use the same elevators and everyone will live in a modular unit, so what's not to like? Some will say that since it's never been done here before in New York City that is then maybe it just isn't safe. Well,

it has been done around the world and has withstood some of the worst conditions imaginable. Some will say well, what about losing some subcontractor jobs that normally would be there if it were done by conventional methods? I say what about the jobs created that would never have been available to union workers, workers of color or jobs that would never have been available under the old traditional building methods. We all know that many subcontractors could care less about making sure that community folks are employed or trained or kept working long term. Maybe it's just too small. Modular construction will impact development not only in this city, but we can export to other states and cities if we lead the way, thereby creating more jobs and a manufacturing base that has been lost in New York City for generations. I for one commend for our city for having a vision and the guts to pursue modular construction. I commend the building and construction trades council for having the foresight to see the future and see it happening now. Safer, more efficient, cleaner and greener skilled labor, quality construction, new

manufacturing union workforce, quicker construction—the list goes on and on. There are others who will be better able to tell you about the science of modular construction. I am here today to share with you the promise of modular construction. This is the future, ladies and gentlemen. We have supported the Atlantic Yard project because of its affordable housing component. The addition of the modular construction to that equation makes our support all the more solid. We urge this committee to really become experts in modular construction because after all, being the Housing and Building Committee and the change that has already started here in Brooklyn, you are going to need to be experts on modular. You are going to need to be experts on steel and framing and what foundations sink and which ones do not. We are on the cutting edge here, ladies and gentlemen, and Atlantic Yards is leading the way into the future of development and construction. We support modular construction and think it should be used whenever and wherever possible. City Council should investigate the electrical and plumbing practices

of the locals that appeared here today and their apprenticeship programs and what results they have gotten whether it is low rise, which I have heard nothing about or now that we have the possibility of high rise, this committee should investigate who is breaking the law and who has broken the law. If a law has been broken, has it been broken by this mayor, HPD, for our city or by certain subcontractors? This committee should have a hearing on that before this committee decides that modular is too risky to do in New York City. Modular is the future. Thank you, Mr. Chair.

CHAIRPERSON DILAN: This committee will decide to do whatever it likes to do, but what I will say is I haven't once taken the position that one, anybody has broken the law because there is provisions in the building code that gives the Buildings commissioner to waive any section, so I never once suggested that. I suggested its inconsistent with current practice, so the suggest that I said anyone here whether it be the Buildings Department, whether it be any developer that presented before us, is not something I believe I have done here today.

BERTHA LEWIS: I said you should investigate allegations of the law being broken by people who have testified here today.

CHAIRPERSON DILAN: Okay, but this is not a criminal investigatory committee. It's just not, and it's not - - .

BERTHA LEWIS: They alleged breaking a law. I am just putting it before this committee.

CHAIRPERSON DILAN: And that is fine. I don't think that is what the intent of this was, and I want to get back to what the intent of this was. The intent was not to get involved in PLAs which we have no authority over. That is a private thing that needs to be worked out privately. Clearly I believe we are doing our due diligence because I agree with you that this an industry that is coming and that will grow and I don't think anything that the public sector can do to stop that. Now that being said, we do have to do our own due diligence and make sure that we do know at least a little bit about it because we are not experts about it, and in the one year that I have left I won't have the time to be an expert

on it, but at least I have opened the door to make sure that one, that the Buildings Department, which appeared to me at minimum inadequately prepared for this hearing and others start to think about the future and know that it is coming and to be prepared. Whether people are happy with their PLAs or what they get or what they didn't get, it is really not my concern. That is their concern for them to be worked out. But when I have evidence that an agency is maybe not acting consistently with current policy, I believe it is my responsibility to investigate and review that. That being said, I respect everything that everyone has said here, and I respect all their feelings and what they think about the future and I look forward to it coming. Obviously when you are new and you are cutting edge and you are the leader in something, you are going to have to face hard questions, but nothing that we have done suggested that we want to stop this. This is done without fanfare, without press, without any legislation attached. We just want information and that is what we hope to achieve here today. I don't have anything else to add. I don't know if

my colleagues want to add anything else. Oh,
there is more testimony. I'm sorry.

ISMENE SPELIOTIS: I know. It's
hard to follow Bertha.

CHAIRPERSON DILAN: In fairness, I
had to go downstairs and vote on something else,
so - - .

ISMENE SPELIOTIS: I'm Ismene
Speliotis, and I am the executive director of the
MHANY Management Mutual Housing Association of New
York, a not for profit housing developer
throughout the city with many of our units in
Brooklyn, and I want to thank you for the
opportunity to testify. It actually has been
quite an educational experience this morning, and
I appreciate it. MHANY is the housing
organization that was founded by Acorn way back in
the '80s, worked with Acorn when they--and
supported Atlantic Yards, but I am actually not to
talk specifically about Atlantic Yards, but to
talk about modular kind of in the same vein as
Chairman you have been speaking around this
balance between affordable housing and safety.
Actually all of the council people have been

trying to kind of figure out this balance between a new industry and affordability, and so this huge opportunity that I think is before us in terms of affordability, and then because it is new in our city really trying to get all of these questions answered so that we do it right, and yes, people might be hurt, maybe not everyone might get everything that they want or they need, but the idea here is to build as much housing for many various income levels and make sure that it's here today, it's here tomorrow and it's here 50 years from tomorrow. It is still standing and it is done correctly. So I think your questions have been great and I have some of the same ones. I guess I just want to—I am not an engineer. I am not a builder, so I really do have to be in the category of understanding and leave that to the experts in terms of the law. I think it's—I just think I just want to speak to the opportunity, for me the idea that a manufacturing industry that does not currently exist in the city of New York is being created is a very big deal. Now clearly it needs to be done right. Clearly it is going to ruffle some feathers and clearly we want to watch

it, but it's very exciting. It's exciting because I believe that the men and the women that will be eligible for employment in that assembly are different than some of the people that we heard from today in terms of the licensed electricians and plumbers. It doesn't make them lesser; they are just different. So for me what is really interesting is this crossroads where you create manufacturing jobs which are less skilled. I think that that is true even from my lay perspective. But you are supervised. Are there enough controls or supervision? Again, we are going to figure that out, right? Then, it comes onsite, and this is exciting. We heard about cleaner. We heard about faster and we heard about more affordable, and these are the future and they are the way that we get more affordable housing development in the future on Atlantic Yards in eats New York, in the Bronx, and as Bertha said even possibly exporting some of that industry to other places. Instead of always saying it is going to happen elsewhere and then we have to bring it in. Here is an opportunity where we build something and maybe we export it to other

places, which has not been the case, so the idea then that you have lower skilled workers working in the assembly, putting things together, delivering it onsite, less noise, less dirt, less - - on that side of the problem side—the environmental, and then you have licensed people making sure that those connections are made, and so that you are really trying to protect the worker and then you're trying to protect the building and you're trying to protect the residents long term, so for me, I think there are questions and I think this is great, but I think that instead of all of these accusations, I think if we understand them, then we put the right checks and balances in place so that this actually this new industry and hopefully a more affordable, and it hasn't been tested. I am picking a wing and prayer that it will become—as it becomes an industry we will get more affordability out of it in terms of the construction and the housing units and for whom.

CHAIRPERSON DILAN: The potential to export is another exciting opportunity, but we have to be early.

ISMENE SPELIOTIS: We have to be, and we have to be careful, and I think that is what you're doing today, and I just want to appreciate it. I appreciate this. I am excited about this opportunity and I'm excited about the questions that you are asking and I'm looking forward to the answers. Thank you.

SKIPP ROSEBORO: Good afternoon. My name is Skipp Roseboro, and I just want to preface my comments. I think that modular construction could be an incredible boom for this city and this region, but I think it's complex enough that I think we still need to look at trying to be fair to all the parties that can be invested in this. I am a resident of Bedford Stuyvesant in Brooklyn and I am also a long time with New York Communities for Change. Because of NYCC's decades of long term fighting and commitment to both affordable housing and union jobs with decent pay and benefits, we feel that it is very important to weigh in on the positive aspects and potential boom that this modular construction is likely to present. Modular building can provide an incredible way forward to

build more faster and cheaper in order to address New York City's affordable housing crisis. I will forgo reading into record the next few useful bullet items in order to summarize other important thoughts. Modular construction will benefit all parties concerned. Owners will benefit from lower construction costs that will allow them to develop housing that is affordable for New York families. Something currently in dire need. Construction companies and unionized workers will have significant increases in work. Our city will have more middle class jobs and multiple tax losses, fewer injuries to both workers and passerbys will reduce insurance costs. The serious reduction of many of the thousand trucks per project will cut costs, reduce insurance costs and make project sites and travel routes hundreds of times safer. The decrease in hundreds of thousands of pounds of waste not only saves significant money, but also lessens egress problems, possible injuries and health problems caused by particulates flying as well as flying and falling debris. Neighbors and businesses benefit from most of the above plus less noise and much shorter construction times.

The new modular technology affords us the potent way of jump starting New York's economic resurgence. We hope the Council will recognize the great potential of this new technology and its benefits to our city. Thank you.

CHAIRPERSON DILAN: I believe that is everybody now. Is that correct? For the gentleman whose testimony I missed please forgive me. I had to go downstairs and vote on another item. Didn't want to be marked absent. Do my colleagues want to start? Council Member James?

COUNCIL MEMBER JAMES: First of all let me just be honest there was subtext that were mentioned but no one has raised or said the words and the issue is obviously race and class. I believe what was also talked about is these low wage workers, which fall into the category of race and class. I believe we all agree that we need more affordable housing. I believe all of us want to make sure that this project is done consistent with the law and that is why there were so many questions here today expressed by both sides, but I think all of us can agree that we really need to create opportunities for New Yorkers. The fact is

1
2 is that 60 percent of this project was according
3 to this article--will be constructed in Lynchburg
4 and then shipped to New York City, and I don't
5 anyone in this room believes that most of this
6 project should be constructed in Lynchburg, and if
7 there is a way that we can do this in New York
8 City and we can do this by also creating
9 affordable housing and doing this safe, doing this
10 union and also involving low wage workers, I think
11 it would be a win win for everyone, and I think
12 really that is what we really should be focusing
13 on and I think in the spirit of Dr. King if all
14 of us could sit down and have a conversation with
15 all of the players I believe it could be a win win
16 for New Yorkers. So with that, I thank you for
17 your testimony, and I thank Ms. Lewis for her
18 passion.

19 CHAIRPERSON DILAN: Ms. Lewis
20 always has passion. She wouldn't be Ms. Lewis if
21 she did not have passion. So hey I asked the same
22 question of the Forest City Ratner folks while
23 they were here. I think we are clear on the
24 benefits. They were clear on the benefits. I'm
25 going to ask you the same question about

impediments. So far in your dealings and in your workings with them and your experience in dealing with both modular and conventional housing, what do you see different besides the obvious benefits, what impediments or drawbacks do you see so far in your work?

BERTHA LEWIS: You're asking us?

CHAIRPERSON DILAN: For whichever one of you I believe it's appropriate.

BERTHA LEWIS: You have pluses and minuses for everything. I think really reinventing this industry and figuring out how to do this construction I think yes, I am very passionate about this because for 25 years my members have stood out in the rain with a union card and could not be put onsite, and yes, I think my impediment here is I would love for the manufacturing to be greater than it is actually that the city could do it up to scale. I think the city is behind. My worry is your worry that being wholly unimpressed with HPD sitting here, but I have been unimpressed with HPD for years, so this is nothing new. I think the commissioner should have been here because if items were

changed in the code or a new interpretation was done in the code, then it is ultimately the commissioner and not like the first deputy, so I think that needs—and this Committee could play a great part in holding that agency accountable. So I do think that this committee could play a big role in this race and class issue because it's real. It really is real, and we have tried to address it ourselves as a non-profit developer, who have built over 1500 units of housing, and I think that part of what I see as the downside is there are so many myths that people will put out there to perpetuate whatever their point of view is that there needs to be a separate maybe non-partisan study. I do mean this for future committees. There will be a new City Council. There will be a new mayor. And so the detriment is that we have to do our own investigation. We had to do our own research and not rely on folks, but I think the downside is that the city should be up to speed better and not just leave it up to us or to have the future buildings and housing committee not really—and I mean it—be experts on this from every single aspect.

CHAIRPERSON DILAN: I wish I was an expert on—I have been an expert on not one item that has come before me, but that is part of our job. The way I view it is just knowing a little bit about everything—

BERTHA LEWIS: Your staff—an expert staff.

CHAIRPERSON DILAN: The eight people that I have—but with that look, I think there is tremendous opportunity for everybody here that is in this room, and I believe there is some tremendous opportunity for some people who are not in this room. My dilemma is how do we get it all wrapped into one package and do it lawfully and do it consistent with what the standard practices have been, so that is the question that we will be left with. I think the idea of actually manufacturing and exporting a product from New York City is a great idea, and while yes, we may be behind the rest of the world from where I sit we are still ahead of the rest of the country, so that is at least an opportunity that we could take advantage of and exploit. In terms of other things on labor agreements and who gets—that is

something that you guys are going to have to work out. That is not our job to work out. Don't intend to work it out, and that will be something that will take care of itself. That being said, so far, to this point I think it was a good hearing and I have learned a lot and we will certainly learn more going forward. So I want to thank you for your time and your testimony for all of you. While it's not perfect, I still think it's a win. Thank you for your time and testimony. Yes. The final two are going to be—I believe this is Mr. Joseph—correct me on the last name—from the Cement League—Kaming from the Cement League and Mr. Terrence Moore from Local 46 Metal Lathers and Iron Workers.

CHAIRPERSON DILAN: Are you leaving or are you going to testify?

MALE VOICE: I was to testify, but...

CHAIRPERSON DILAN: You are welcome to testify if you'd like to.

MALE VOICE: I thought you said you were leaving.

CHAIRPERSON DILAN: No, no. Just that panel. Just that panel.

[background conversation]

CHAIRPERSON DILAN: Why don't we begin with the Cement League and then we will do the Metal Lathers? If I could just ask for the chambers to call to order so that these gentlemen can have the dignity in testifying with the respect that everyone else had the dignity in testifying under? Okay, gentlemen. If you guys are ready, you can begin.

[background conversation]

CHAIRPERSON DILAN: I'm sorry, but if I could just ask you to start over, it wasn't captured for the record. Just to repeat what you said, it wasn't capture for the record.

JOSEPH KAMING: My name is Joseph-

FEMALE VOICE: Is it on?

CHAIRPERSON DILAN: Let's check the mic.

JOSEPH KAMING: I must have turned it off. Okay. Thank you. My name is Joseph Kaming and I represent the Cement League and the developers think modular sliced housing is more wonderful than sliced bread, but really I think there is a whole counter situation that and we

presented it in our submitted testimony. We really have four recommendations, which we believe the City Council could assist us with. One is we'd appreciate the City Council to request from the Building Department the complete folio of the B2 submission because really the devil is in the details, and it deserves to be reviewed independently by other than the Building Department. The second suggestion that we have is that there be a prepared an environmental impact statement. We are concerned as Councilwoman James has said that in the original environmental impact statement the utilization of modular housing was not identified, and we really believe that's a bait and switch type of situation. Yes, really, I think. That is correct. The problem is that affordable housing has to be in that project. Who is going to benefit from this other than the Forest establishments? It seems that modular housing is not as durable, sturdy, worthy as conventional constructed concrete frame high rise residential units. Traditionally in New York high rise units have been constructed of concrete, and as was let slip by Forest Ratner based upon a very

astute question was that the high rise modular housing which was constructed in London was really on a concrete frame, and we believe that it's necessary for durability, for soundproofing, for all sorts of living comfort that the framework of these buildings be durable and durable means concrete in New York plus all around the world.

So we would request that an environmental impact statement be prepared particularly on any approval of the B2 housing. The third thing that we request is that the technical provisions of the law regarding licensing be complied with and that the City Council oversee that that is the case. The fourth item which we request is that the City Council separately establish within the building code a specific article dealing with manufactured housing. That really is what we are concerned about. We want to become involved in a review process, and we want that review process to be thorough and informative. Thanks very much.

TERRENCE MOORE: Good afternoon.

My name is Terrence Moore—Terry Moore. I am with Local 46 the reinforcing metallic iron workers, metal lathers and reinforcing iron workers

specifically. I have been in construction since 1981, been an officer of the union since 1987.

I'd like to say that I agree with everything that Joe said, Joe Kaming, in regards to the licensing, but there is some things that go without saying that I don't know that the City Council is all that much aware of. First and foremost is that the historic way that construction has been done in New York most housing projects were done out of concrete, and when you got to the commercial work, you had a lot of - - and structural steel, which is less fire resilient between floors and between apartments and that was the reason—one costs more than the other and modular costs less than both.

And to house people in what is considered just modular goes away from the Buildings Department's main priority which was in the beginning to make sure that people had a safe place to live. It was done in concrete because concrete wouldn't go between floors. When you got into multiple floor dwellings, 15, 16, 17, there was always that concrete floor so that if the 5th floor caught fire, the 7th floor was safe. They had fire escapes that people could get out, but in the old

tenements that were made out of wood when they went to 15, 16, 17 story buildings that was always building code to have them done and made out of concrete. Now that has all changed. The step is not only one down, it's two, three down because the commercial work that people like the place we are in right now where people work has a lesser fire code than where somebody would live. And so to me, the two things that you really have to get back to is one, you have to bring the Fire Department in because they are the ones who are going into the building to save the people that are living when there are fires. And two of the most important is the Buildings Department should be held to their own mantra so to speak that the safest buildings in the city of New York are the ones that people live in and that the value for affordable or the goal to meet the affordable housing shouldn't compromise where the people are going to live and that is exactly the process as you see it, so what has happened? The Buildings Department needs to set as Joe said earlier a standard for the modular if they are going to be single floor, two floor, multi floor. The

Buildings Department needs to come up with that first, not after the fact, after any developer whether it be somebody that has great connections with the city of New York or somebody from anywhere else. This lies squarely on the Buildings Department, and for them to take a backseat and say that licensing should be done somewhere else, it goes against everything that the city was built on in the first place and we have gone as time has gone on, we have gotten further down the road. It started with Giuliani when he allowed architects and engineers to change the code to meet the needs of the new technology. That is what happened in the '90s, and here we are it's 2013. We are so far away from what the Buildings Department's job is and that is to regulate not only and approve the type of construction, but how it's being done after the fact. That is their job, and they need to do their job. That's all I have to say.

CHAIRPERSON DILAN: Thank you both for your time and testimony. I believe Council Member Crowley has a question.

COUNCIL MEMBER CROWLEY: One quick

question because in the interest of time it has been a very long hearing, but very educational as well. Before I referenced the building of World Trade Center One currently under construction how it has an interior elevator and stairwell system that is protected by concrete because it is most fire resistant. Now I asked about this particular building and I am very concerned about the response that was given because they made like the structure they are using is about three inches thick and it couldn't even be compared to concrete. It's scary when you have a fire going to multiple floors, but when you want to get into your area of egress and you can't because that too is on fire, shouldn't there be a code that if we know that it's safer to protect areas of egress that those be protected with concrete?

TERRENCE MOORE: World Trade Center One—you want to ask him? He's an engineer, but I can answer it. World Trade Center One and Two were a steel core and that steel core folded and came down when the plane hit it. The Port Authority when that job was built had the right to change the code of the city of New York 'cause

1 they owned the property and that was the
2 arrangement that was made with New Jersey, the MTA
3 and the city of New York. They changed the code
4 for that project. To think that people are going
5 to live in a building that 35 stories high or 30
6 stories and they have no concrete core and not
7 even a steel core. The Trade Center was a steel
8 core. What they are talking about for the modular
9 units to keep up with fire code is to have three
10 layers of sheet rock—that is my understanding of
11 the design of the building—three layers of sheet
12 rock to have a fire wall between one and another
13 apartment and so that people can get out in case
14 of an emergency. That is substandard by any basis
15 for the city of New York not only in the past, not
16 only for now, but definitely for in the future,
17 and to not have concrete in between the floors
18 that people are going to be living on, it would be
19 a first except for all of the older tenements that
20 the Buildings Department got away from.

21
22 JOSEPH KAMING: Now if the concrete
23 core requirement was reemphasized by the World
24 Trade study evaluation. They had a thorough
25 review of expanding fire safety after the

misfortune of 9/11, which emphasized the need for concrete cores, and also one of the problems with any type of plaster board or sheet rock as core protection is that historically that type of material has been gouged and dented is subject to abuse where for whatever reason people avoid putting their fist into concrete, but not sheet rock. And that is why in London they have a concrete framework, also for noise, a buffering, the mass just the density of concrete relieves the stress of participating in your neighbor's arguments, and for sheer comfort concrete creates a better building, but what we'd like to do is really see the plans. There are certain features of modular housing that have advantages. We just want to have an evaluation of what actually is going to be done, and we can't get the actual plans out of the Building Department because it's under review. It's this, that and the other thing. We want to see the folio and if we can see what they are, we will give you our review and honestly when we think that there is something better in it, we will tell you. Maybe we will tell you a little more quietly, but we will tell

you because it becomes too obvious to you all.
That's all.

COUNCIL MEMBER CROWLEY: Last
question. So - - foiled?

JOSEPH KAMING: We had a foil on
the high rise safety study, and they never
answered it. They just don't answer our foils,
and then you get into a situation from an
association. We have our members. Do we sue
them? Do we go into all of this business as sort
of an aggressive antagonistic relationship? We
have contractors that have to live day to day with
them, and so it really is too anguishing.

COUNCIL MEMBER CROWLEY: So it's
the plan itself as well as the safety study.
Correct?

JOSEPH KAMING: Yes. The whole
thing. We just-if you could get it and you would
make it available for us to review we will give
you an honest review of it. That is what we will
do. We will hire even outside people to do it.

TERRENCE MOORE: You need an
outside expert or at least two of them to go over
everything that has been presented to you and to

have them give you an honest assessment if this is leading down a good road because five, ten years from now when things happen and things do happen you see it. Cranes come down. Problems happen.

CHAIRPERSON DILAN: What I would say is it's a lot easier said than done. We tried to invite people here who didn't have a skin in the one particular high rise - - totally independent, didn't want to - - . It was hard to get them here.

JOSEPH KAMING: We will pay the people to come in.

CHAIRPERSON DILAN: If you hired them, it wouldn't make them exactly - - .

TERRENCE MOORE: It would be biased. You need to do that.

JOSEPH KAMING: [off mic]

CHAIRPERSON DILAN: If you could speak into...

JOSEPH KAMING: They are relying on SHoP and their experts. We would have separate experts and honestly, we are confident concrete is better and also we think that people should abide by the code or the code should be changed, but

1
2 regardless of that, we will look at things like
3 cost and affordability and so forth. There are
4 advantages of the length of time on a construction
5 site and so forth. When you start transporting
6 something which is 14 feet wide, 35 feet long and
7 begin to lift it in a structure with wind
8 considerations, that is an entirely different
9 matter, and as I guess you probably are aware,
10 Forest Ratner has specifically identified the
11 dimensions of this system so they don't have to
12 hire a licensed rigger. They made the dimensions
13 smaller so that a licensed rigger wouldn't have to
14 be there on the site because a licensed rigger
15 would add to their costs.

16 FEMALE VOICE: Given the
17 scaffolding problems that we have had in this
18 city? Crane?

19 JOSEPH KAMING: What they suggest
20 is far less than perfect and that is not to say
21 that modular units do not have their place. They
22 have their place, but really, even in terms of the
23 cost involved, it rightfully should be
24 independently looked at. That is why an
25 environmental impact statement, if, in fact, they

have been honest and talked about modular housing would have had to include modular housing at the outset because it's a different category of construction.

CHAIRPERSON DILAN: Thank you all. Thanks for your time and for your testimony. I do have—we do have some stuff for the record.

JOSEPH KAMING: Thank you very much.

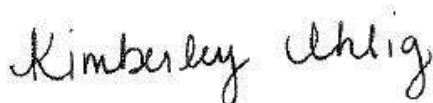
CHAIRPERSON DILAN: Thank you all. We also have testimony from the United Cement Masons Union that will be entered into the record in full, testimony from the New York City Building Congress, which will be entered into the record in full, and I believe that is all. Is that correct? I believe that is all, and that will conclude this hearing.

[gavel]

C E R T I F I C A T E

I, Kimberley Uhlig, certify that the foregoing transcript is a true and accurate record of the proceedings. I further certify that I am not related to any of the parties to this action by blood or marriage, and that I am in no way interested in the outcome of this matter.

Signature



Date

1/30/13