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COMMITTEE ON ENVIRONMENTAL PROTECTION

CITY COUNCIL
CITY OF NEW YORK

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TRANSCRIPT OF THE MINUTES

Of the

COMMITTEE ON ENVIRONMENTAL PROTECTION

January 28, 2019
Start: 10:07 a.m.
Recess: 12:48 p.m.

HELD AT: 250 Broadway-Committee Rm, 16th Fl.

B E F O R E: COSTA G. CONSTANTINIDES
Chairperson

COUNCIL MEMBERS:

RAFAEL L. ESPINAL, JR.
STEPHEN T. LEVIN
CARLOS MENCHACA
DONOVAN J. RICHARDS
ERIC A. ULRICH
KALMAN YEGER

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COMMITTEE ON ENVIRONMENTAL PROTECTION

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

Susanne DesRoches
Deputy Director for Infrastructure and Energy at
Both the Mayor's Office of Resiliency and the
Mayor's Office of Sustainability

Melissa Enoch
Program Manager for Private Incentives at the
Department of Environmental Protection's Bureau
Of environmental Planning and Analysis

Alan Price
Director of the Office of Technical Certification
And Research at the Department of Buildings

Steven Caputo
Assistant Commissioner for the Department of
DCAS, Division of Energy Management

Mikelle Adgate
Senior Advisor for Strategic Planning at the New
York City Department of Environmental Protection,
DEP

Melissa Daniels
Board Director for Green Roofs for Healthy Cities

Alan Burchell
Founder and Principal of Urban Strong

Zack Steinberg
Vice President at the Real Estate Board of New
York, REBNY

Tim Barrett
President of the Barrett Company

Emily Nobel Maxwell
Program Director of Nature Conservancy's New York
City Program

Bhavya Reddy
Operations Manager, NYC CoolRoofs at the Hope
Program

2 A P P E A R A N C E S (Continued)

3 Julie Welch
4 Program Manager for the Stormwater Infrastructure
5 Matter, SWIM, Coalition

6 Michelle Luebke
7 Director of Environmental Stewardship for the
8 Bronx River Alliance, Member of SWIM Coalition
9 Steering Committee

10 Gwen Schantz
11 Co-Founder and Managing Partner at Brooklyn
12 Grange

13 Marielle Anzelone
14 Urban Ecologist and the Executive Director of New
15 York City Wildflower Week

16 Marni Majorelle
17 Founder of Alive Structures

18 Patrick Weisel
19 Senior Project Manager with Being Here Landscape
20 Architecture and Environmental Design

21 Inger Yancey
22 Founder of Brooklyn Green Roofs

23 Mary Nell Hawk
24 Started Alstyne Solar LLC

25 Misty Gonzalez
26 Founder and Creative Director of Hortus
27 Environmental Design, Landscape Specialist and
28 Specifications Consultant with Robert Schwartz
29 And Associates

30 Willis Elkins
31 Executive Director of the Newtown Creek Alliance

32 Lucia Pullman
33 Resident of New York City

34 Dr. Paul Mankiewicz
35 Founding Board Member of the New York City Soil
36 And Water Conservation District

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

Chris Rice
Manufacturer's Representative to American
Hydrotech in the New York City Territory

[gavel]

CHAIRPERSON CONSTANTINIDES: Alright,
good morning everybody. I am Costa Constantinides,
Chair of the Committee on Environmental Protection
and today the Committee will hear a package of green
roof and renewable energy bills. Just some
housekeeping up front before I read my statement, if
you really like something here in the City Council we
do this [snapping], there's no booing if you don't
like something and we need to vacate this room by one
o'clock so I am going to put... after we have the
administration panel, I am going to put everyone on a
three minute timer. If you... if you have testimony
that's going to go longer than three minutes, I can't
accommodate that, but I can accommodate your written
testimony that we will read, take into consideration
and absolutely, you know incorporate into the stuff
that we're doing. So, I appreciate all of your time
here and your, your advocacy but we do need to have...
be out of this room by one o'clock so I do have to
put everyone on a three-minute timer, so I apologize
for that. So, back, back to our regularly scheduled
program. As land continues to be replaced with
impervious services due to population growth and

1 urbanization, the necessity to recover green space is
2 becoming increasingly critical to maintain
3 environmental quality. While we need to maintain and
4 grow our green spaces at ground level installing
5 green roofs is one option that can reduce the
6 negative impact of development while providing
7 numerous environmental, economic and social benefits.
8 Green roofs can improve stormwater management by
9 reducing runoff and improving water quality, green
10 roofs can conserve energy, mitigate the urban heat
11 island and increase longevity of roof membranes.
12 Green roofs can reduce noise and air pollution, green
13 roofs can also increase bio... urban biodiversity by
14 providing habitat for wildlife, space for urban
15 agriculture and a more aesthetically pleasing and
16 healthy environment where we work, live and play.
17 Green roofs improve the return on investment compared
18 to traditional roofs. And finally, most importantly,
19 green roofs reduce greenhouse gas emissions by
20 reducing cooling loads thereby requiring less
21 combustion of fossil fuels associated with HVAC
22 equipment. Today's hearing involves a package of
23 green roofs and renewable energy bills including
24 Intro 961, extending J-51 benefits to owners of
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1 multiple dwellings for green roofs; Intro 141,
2 requiring the roofs of city owned buildings be
3 partially covered with source control materials;
4 Intro 276, requiring that roofs with certain... of
5 certain new buildings be partially covered in plants
6 or solar panels; Intro 1031, requiring the posting of
7 information regarding green roofs on the website of
8 the Office of Alternative Energy; Intro 1032,
9 requiring the roofs of certain buildings to be
10 covered in green roofs, solar panels or small wind
11 turbines; Intro 1317 in relation to large wind
12 turbines and a Pre-Considered Intro in relation to
13 studying the feasibility of implementing solar ready
14 measures on commercial buildings. We are also hearing
15 Resolution 66, calling on the state legislator to
16 pass and the Governor to sign legislation that would
17 increase real property, property abatement for the
18 installation of a green roof. We want these green
19 roofs and other renewable energy technologies
20 installed in New York City to be a model of other
21 places that share our climate characteristics. We
22 need green roofs and other renewable energies,
23 technology to reduce our green house gas
24 contributions and help us reach our mandate of
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2 reducing 80 by 50. We need to use every hour in our
3 quiver to reach that mandate. Now I want to turn it
4 over to Council Member Raphael Espinal of Brooklyn
5 and he'll give an opening statement of his
6 legislation.

7 COUNCIL MEMBER ESPINAL: Thank you Mr.
8 Chair, truly grateful to be here today talking about
9 green roofs and for your leadership on this issue and
10 holding this hearing. Over 70 percent of global
11 emissions come from cities because we consume more
12 energy and produce more waste, we are ranked in the
13 top 25 cities in the country with the worst air
14 pollution. We have to take these statistics seriously
15 and hold ourselves accountable for what we are doing
16 to our planet. Denver, San Francisco, Toronto and
17 cities across the country and the world have already
18 stepped up with progressive green roof legislation
19 meaning we are behind. Today is a significant step
20 forward in bringing New York into the modern age of
21 sustainability. We have 2.6 million square feet of
22 rooftops in the city and this number is increasing
23 each and every day. This means we have acres of
24 opportunity to reduce our carbon footprint, it would
25 be irresponsible to leave these roofs to bake in the

1 hot sun when we could be harnessing them to cool down
2 our city. Green roofs provide insulation to
3 buildings, reducing energy usage and even helping
4 with soundproofing, they absorb 90 percent of
5 stormwater runoff which is one of the leading causes
6 of water pollution in the city. In addition to saving
7 money on energy bills, green roofs also improve the
8 life span of the average roof leading to fewer repair
9 costs. They clean our air, with studies showing that
10 thousands of kilograms of air pollutants can be
11 captured by green roofs. Expanding green roofs would
12 be a win for our environment, our economy and our
13 communities. At a time when the Trump Administration
14 has turned its back on our planet, it is up to cities
15 like New York to lead the fight against climate
16 change. To do that we have to adopt policy to take
17 advantage of our unique, untapped assets. So, I look
18 forward to hearing from all the advocates and also
19 from the administration on what is the way... best way
20 to move forward but I truly believe that it is time
21 for New York City to require green roof... green roofs
22 on all buildings as I mentioned, all other cities are
23 doing it and us as being one of the largest cities
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2 it's our time to step up and do right by our city and
3 our planet. Thank you.

4 CHAIRPERSON CONSTANTINIDES: Thank you
5 Council Member Espinal and I appreciate your
6 leadership as well on these issues. Now for an
7 opening statement on his legislation Council Member
8 Donovan Richards.

9 COUNCIL MEMBER RICHARDS: Thank you Costa
10 and thank you Samara and to the rest of the staff
11 and, and my partner Espinal as well on your
12 leadership on these bills. Listen, I, I think we need
13 to move to a hundred percent renewable future in New
14 York City, we are far past where we need to be, and I
15 just want to point to not just legislation
16 necessarily but to the impacts on communities like
17 the Rockaways. After hurricane Sandy I remember many
18 of my residents for months being without electricity,
19 think about this, seniors in public housing who could
20 not flush their toilets, charge their phones,
21 communicate with the outside world because there was
22 no electricity after the storm, we're talking... I got
23 elected in February of 2013, you're talking nearly
24 five months for these seniors. So, this is not rocket
25 science, this is we should be doing this, 70 percent

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of all building emissions.. carbon emissions come from buildings, it is... we are far past the time where we need to move to a renewable future. I'll also talk about the affordability benefits, we've done some of this in the Rockaway's already, I've already told any developer who's coming into the Rockaways who wants to develop that they have to do solar, it's not a choice it is mandatory and, and I could tell you, I mean we have residents who are probably paying like three dollars on electricity a year because we've done this so the, the benefits for affordability, keeping our seniors in their homes, keeping housing affordable for our residents is detrimental in this day and age where gentrification is popping up all over the city as well. I'll also talk about the air quality benefits, obviously we know especially for environmental justice communities, black and brown communities who bear the biggest brunt of pollution and the crisis around affordability and energy going back to that again that these bills are a step.. a major step in the right direction so I'm hoping that the administration is going to support these bills and we look forward to hearing from our advocates

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2 who've been great on this issue. So, thank you Mr.
3 Chair, I look forward to hearing their testimony.

4 CHAIRPERSON CONSTANTINIDES: Thank you
5 Council Member Richards. Alright, seeing no other
6 colleagues to recognize we'll now hear testimony from
7 the administration if our Attorney, Samara Swanston
8 can swear the panel in, thank you.

9 COMMITTEE CLERK SWANSTON: Can you please
10 raise your right hands? Do you swear or affirm to
11 tell the truth, the whole truth and nothing but the
12 truth today?

13 SUSANNE DESROCHES: Yes.

14 MELISSA ENOCH: Yes.

15 SUSANNE DESROCHES: Good morning. My name
16 is Susanne DesRoches and I am the Deputy Director for
17 Infrastructure and Energy at both the Mayor's Office
18 of Resiliency and the Mayor's Office of
19 Sustainability. I am joined here today by Melissa
20 Enoch, Project Manager... Program Manager for Private
21 Incentives at the Department of Environmental
22 Protections Bureau of Environmental Planning and
23 Analysis and Alan Price, Director of the Office of
24 Technical Certification and Research at the
25 Department of Buildings. I want to thank Chairperson

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2 Constantinides and the members of the Committee for
3 this opportunity to testify on behalf of the De
4 Blasio Administration on a package of bills related
5 to green roofs and other sustainable rooftop systems.
6 New York City... New York City's rooftops are an
7 underutilized resource in the effort to reduce carbon
8 emissions, manage stormwater runoff and make our city
9 the most sustainable big city in the world. Building
10 rooftops have far more to contribute than a great
11 vantage points to an iconic skyline. With the right
12 incentives for building owners, rooftops can play a
13 role in generating renewable energy, improving the
14 quality of New York City's surrounding waterways, and
15 increasing the resiliency to stronger rain storms and
16 heat while contributing and enhancing the quality of
17 life within our neighborhoods. The administration
18 supports leveraging the city's abundant roof space to
19 maximize sustainability and resiliency with easy and
20 flexible compliance mechanisms for developers and
21 building owners. At present, there are three primary
22 city supported options for building owners to make
23 improvements that offer environmental and economic
24 benefits. Green roofs. Over the past decade, green or
25 vegetated roofs have become more common in the city.

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2 In addition to the storm water benefits discussed
3 below, green roofs reduce rooftop temperatures, and
4 promote energy efficiency and comfort within
5 buildings and can be installed along with solar
6 installations. As of 2016, the Nature Conservancy
7 estimates that there were over 1,200 vegetated roofs
8 covering about 60 acres across the city, a small
9 portion of the total 40,000 acres of citywide
10 rooftops. Green roofs are one example of green
11 infrastructure which DEP builds to improve the
12 quality of the city's waterways. The city's ultra-
13 urban landscape is mostly impervious and can't absorb
14 stormwater so rain must flow from streets and
15 rooftops into the sewer system. The city has invested
16 billions of dollars in large infrastructure projects
17 and other programs to reduce combined sewer overflow
18 or CSO, a mix of stormwater and untreated wastewater
19 from entering our waterways. DEP's 1.5-billion-dollar
20 Green Infrastructure Program supports projects such
21 as green roofs, rain gardens, and permeable pavements
22 to reduce CSOs and to promote the health of the
23 harbor. Today, our waterways are the cleanest in a
24 century. Part of DEP's nationally recognized Green
25 Infrastructure Program is the Grant Program for

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2 private properties. Since the program began in 2011,
3 it has funded 32 projects around the city with green
4 roofs comprising 60 percent of them. However, green
5 roofs are expensive to install, not suitable for all
6 buildings and have less impacts in areas without
7 combined sewer systems or substantial heat
8 vulnerability. To encourage uptake, DEP routinely
9 works with the local green roof industry, holding
10 forums and conducting surveys to fine tune DEPs
11 program. As a result, DEP established new procedures
12 to fast track green roof applications which are now
13 accepted on a rolling basis year-round. DEP has the
14 highest green roof incentive in the nation at 30
15 dollars per square foot. Solar. Solar installations
16 have increased nearly seven-fold since De Blasio...
17 since Mayor De Blasio took office, providing more
18 than 170 megawatts of electrical capacity, cutting
19 carbon emissions by 36,000 tons each year and
20 supporting over 4,000 jobs in... across the five
21 boroughs. The cost of solar has decreased over 25
22 percent since 2013. Lower costs paired with some of
23 the highest electricity prices in the nation continue
24 to make solar an attractive option, with property
25 often... property owners often recouping their

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2 investments within years. Solar can be paired with
3 either green roofs or cool roofs, both of which can
4 actually increase the amount of electricity produced
5 by a solar installation and maximize the
6 sustainability, resiliency and financial benefits.
7 The city is also using public buildings to rapidly
8 expand solar deploy, deployment. Mayor De Blasio
9 committed to installing 100 Megawatts of solar at
10 city owned and operated facilities by 2025. Today the
11 city has nearly 11 Megawatts of solar PV installed on
12 public buildings, a tenfold increase in just five
13 years, and an additional 30 Megawatts is currently
14 being developed or planned. In addition, New York
15 State introduced community shared solar, which
16 enables renters and others who are unable to install
17 their own systems to access the benefits of solar.
18 NYCHA and EDC have up to 300 new community shared
19 solar systems in the pipeline and that will serve
20 thousands of low- and moderate-income households.
21 Cool roofs. As part of Cool Neighborhoods NYC, the
22 city's comprehensive resiliency program designed to
23 keep New Yorkers safe during extreme heat, the
24 administration has prioritized the New York City NYC
25 CoolRoofs program in the heat vulnerability..

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2 vulnerable areas of the South Bronx, Central
3 Brooklyn, and Northern Manhattan to conduct strategic
4 outreach to owners over the coming years. This
5 successful program provides jobseekers with training
6 and work experience to install reflective rooftops.
7 Cool solar... cool roofs reduce roof temperature,
8 cutting... helping to cut carbon emissions by
9 transferring less heat into the buildings, which in
10 turn helps to reduce carbon... energy consumption and
11 wasted heat from air conditioning. In addition, cool
12 roofs extend the lifespan of rooftops and HVAC
13 equipment, contribute to the thermal comfort of
14 building residents, and when clustered, can provide a
15 cooling effect to surrounding areas. NYC CoolRoofs
16 offers cool roof installations at no cost or low cost
17 to affordable housing, nonprofits, hospital and
18 community centers. To date, almost 10 million square
19 feet of rooftop have been painted. In sum, requiring
20 that new construction will incorporate a combination
21 of sustainable roofing solutions as described, would
22 help developers install cool roofs... cool roofs and
23 solar or green roofs where it makes the most
24 financial and logistical sense. Moreover, adding
25 these features to a building before it is

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2 construction... constructed can ensure that the
3 structures are built into the design of the property.
4 Today's introductory bills align with administration
5 climate goals and so we are pleased to testify in
6 general support of them. Introductions 141, 276 and
7 1032. The administration supports efforts to expand
8 green and blue roofs, cool roofs, solar systems, or a
9 combination thereof on commercial and, and
10 residential buildings. We support limiting these
11 efforts to new construction since at this stage
12 buildings can be designed more effectively to
13 accommodate the heavy structural loads that accompany
14 these systems. We recommend that all new buildings
15 incorporate cool roof surfaces regardless of roof
16 type and green roof or solar photovoltaic generating
17 systems or both. Property owners should have the
18 flexibility to choose climate positive roofing
19 solution that most suit the building, while including
20 green and cool roofing elements. We look forward to
21 working with the Council to structure these bills in
22 a way that is cost effective for new development,
23 including affordable housing. Introduction 961. In
24 principle, the administration supports efforts to
25 encourage green roof construction on existing

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2 multifamily buildings. However, the J-51 state
3 enabling legislation allows local legislative bodies
4 to adopt or amend J-51 laws until January 1st, 2019,
5 and we respectfully encourage the Council to defer
6 passage of any local law that would involve the
7 program until it is reauthorized as anticipated in
8 this State legislative session. Introduction 1031.
9 The administration supports efforts to educate
10 community stakeholders about the benefits of green
11 roofs. We look forward to working with the Council
12 and the Department of Buildings to ensure that such
13 resources are readily available. Introduction 1317.
14 This bill would codify design and construction
15 standards for large wind turbines. We thank the
16 Council for its partnership on Local Law 105 of 2018,
17 which codified design and construction standards for
18 small wind turbines. We look forward to working with
19 the Council to make sure that the standards being
20 proposed in this bill ensure the safe installation
21 and acoustic performance of large wind turbines.
22 Conclusion. In conclusion, I would like to thank this
23 Committee for its partnership on combatting the
24 impacts of climate change to New York City. We
25 support the bills that require green roofs... we

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2 support bills that require green roofs and solar
3 systems on new construction while providing strong
4 incentives for building owners to retrofit their
5 roofs where possible. Working together, we are
6 confident that we can strengthen these bills to help
7 us achieve our carbon reduction goals by better
8 utilizing roof space across the city. I thank you for
9 the test... the opportunity to testify. I am happy to
10 answer any questions that you may have at this time.

11 CHAIRPERSON CONSTANTINIDES: Great, well,
12 usually when I'm told yes, I, I know when to be quiet
13 but I'll, I'll ask a few questions... [cross-talk]

14 SUSANNE DESROCHES: Sure... [cross-talk]

15 CHAIRPERSON CONSTANTINIDES: ...and then
16 I'll, I'll give it over to my colleagues who I know
17 have questions this morning as well. So, looking at
18 some of the, the large wind turbines what do you feel
19 the biggest impediment has been to their
20 implementation because I know that the Sims plan it
21 took, you know four years for them to get permitted,
22 what has been some of the biggest sort of tripping
23 points for us in implementing wind turbines in the
24 city of New York?

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2 SUSANNE DESROCHES: Do you want... sure,
3 okay.

4 ALAN PRICE: With the Sims project we did
5 have some challenges looking at large wind turbines,
6 primarily those challenges where that this was the
7 first project that we looked at for a large wind
8 turbine so we had to develop criteria, understand the
9 technology, research the industry and it did take
10 about a year for us to approve that particular
11 project... [cross-talk]

12 CHAIRPERSON CONSTANTINIDES: Uh-huh...
13 [cross-talk]

14 ALAN PRICE: Moving forward though we do
15 have that information from our first initial project
16 that we can rely on and we would expect that any
17 material... any proposal for a new large wind turbine
18 would receive material acceptance in a much quicker
19 time fashion.

20 CHAIRPERSON CONSTANTINIDES: Alright, so
21 now that we... now that we've figured it out, now that
22 we've, we've come up with the formula we know how to
23 apply that for everyone else so we can just keep
24 moving forward.

25 ALAN PRICE: That's right, yes. E

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CHAIRPERSON CONSTANTINIDES: That's good to hear because I think one of the biggest challenges and I've said this at these hearings before is that if we can make it as easy to be green as it is to be traditional because right now everyone knows if they go to the, you know the DOB they get these things done and they're able to get their boiler, we want it to be as simple to be green and if they're able to do that then, you know people who are doing these renovations in their buildings, it's not just about dollars, it's about time, it's about ease of navigating through the system, if we can make it just as easy it, it will be a big boom to encourage renewable energy as a... as a real choice so I appreciate that. Thank you. So, with that I'll turn that over to my colleagues, I know Rafael Espinal and, and both Donovan Richards and Rafael who also have questions, I'll begin with Council Member Espinal.

COUNCIL MEMBER ESPINAL: Thank you.

Again, I, I also don't have many questions hearing that you are in support of these bills so just for the record you, you support a requirement for some,

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2 some storm... some sort of green roof on, on buildings
3 in New York City?

4 SUSANNE DESROCHES: So, what, what our
5 testimony is saying is that we do support sustainable
6 rooftop solutions, right, so we're looking for all
7 the tools that a building owner can use to help us
8 combat climate change, right, that can be solar, that
9 can be green roofs, that needs to be cool roofs as a
10 sort of underlying layer to all of that so we can
11 make sure that we are as you mentioned earlier our
12 air quality goals are quiet important in the... as we
13 can make our buildings cooler that helps the urban
14 heat island in New York City. So, we are specific in
15 the... in the testimony that we support all these
16 sustainable rooftop solutions in particular in new
17 construction.

18 COUNCIL MEMBER ESPINAL: So, you, you
19 support the requirement of one of these... one of these
20 solutions on rooftops?

21 SUSANNE DESROCHES: So, again we, we want
22 to make the buildings as sustainable as possible, we
23 recognize that rooftops are the... [cross-talk]

24 COUNCIL MEMBER ESPINAL: I support a
25 requirement... [cross-talk]

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2 SUSANNE DESROCHES: ...untapped... [cross-
3 talk]

4 COUNCIL MEMBER ESPINAL: ...so I'm
5 wondering if the... [cross-talk]

6 SUSANNE DESROCHES: Understood,
7 understood... [cross-talk]

8 COUNCIL MEMBER ESPINAL: ...administration
9 supports the requirement... [cross-talk]

10 SUSANNE DESROCHES: So, we support...
11 [cross-talk]

12 COUNCIL MEMBER ESPINAL: ...that's what
13 the bill... [cross-talk]

14 SUSANNE DESROCHES: ...requirements for new
15 construction... [cross-talk]

16 COUNCIL MEMBER ESPINAL: Okay... [cross-
17 talk]

18 SUSANNE DESROCHES: ...across all of the
19 tools, right and so we look forward to working with
20 you on how the bills can support, what is the tool
21 that's best for each individual building.

22 COUNCIL MEMBER ESPINAL: Alright, so I
23 also support implementing this bill retroactively on
24 bills that are going to do intensive roof repair,
25 right, meaning if you're going to spend the money to

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2 redo your entire roof then you should comply to, to
3 one of these methods... [cross-talk]

4 SUSANNE DESROCHES: Uh-huh... [cross-talk]

5 COUNCIL MEMBER ESPINAL: Is there a
6 position for the administration on, on that effort?

7 SUSANNE DESROCHES: So, again we would
8 have to go back and look at exactly what that
9 definition is, you know one of our concerns is the
10 structural capacity of the building to support the
11 weight so, we look forward to working with you on
12 what that definition is.

13 COUNCIL MEMBER ESPINAL: Okay, yeah and
14 just to be clear it's, it's... again it's just a
15 requirement on, on retroactive... on retrofits for
16 folks who are going to do intensive roof repair, you
17 know we're not... we're not saying that's starting
18 tomorrow after this bill passes everyone has to put
19 in... put in one of these sustainable roofs but more of
20 like if you're going to spend the money on redoing
21 your entire roof then you would be required to do
22 this.

23 SUSANNE DESROCHES: Right and again we
24 look forward to working with you on that.

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2 COUNCIL MEMBER ESPINAL: Alright, looking
3 to forward to hearing, thank you.

4 CHAIRPERSON CONSTANTINIDES: Thank you
5 Council Member Espinal. Just really quickly about
6 city owned buildings, I know that pursuant to a, a
7 previous Local Law... see, I, I remember the bill
8 numbers, I get lost on the whole Local Law things but
9 there was a report issued about the solar readiness
10 of city owned buildings, what is our plan looking..
11 so, there, there's sort of two buckets, right, those
12 that are solar ready that we're doing the
13 implementation and those that are not solar ready for
14 their roofs being too old or... you know that's... it's
15 not just a good spot for solar, how are we getting
16 those buildings that are not currently solar ready
17 because of the age of their roof, how are we doing on
18 roof repairs of these city owned buildings to be able
19 to get them solar ready into the future?

20 SUSANNE DESROCHES: So, again thank you
21 for that question, I have some general information on
22 how DCAS's solar program is going but they are... they
23 are here so I'm going to actually call Steve Caputo
24 to talk about the solar ready program.

25

1 COMMITTEE ON ENVIRONMENTAL PROTECTION

2 CHAIRPERSON CONSTANTINIDES: And we're
3 doing some really good stuff in, in, in my district
4 in particular with DCAS and I'm, I'm grateful for
5 that but I just want to hear like how we're looking
6 at these buildings that are currently not solar ready
7 because their roofs are too hold, how are we getting
8 those roofs up to speed so then we can implement
9 solar or, or green roofs.

10 STEVEN CAPUTO: Sure...

11 COMMITTEE CLERK SWANSTON: Can you please
12 raise your right hand? Do you swear or affirm to tell
13 the truth, the whole truth and nothing but the truth
14 today?

15 STEVEN CAPUTO: I do. Well thank you for
16 having me, for, for the record my name is Steven
17 Caputo, I'm the Assistant Commissioner at DCAS,
18 Division of Energy Management, where part of the
19 portfolio that I oversee is the clean energy
20 portfolio so... [cross-talk]

21 CHAIRPERSON CONSTANTINIDES: Uh-huh...
22 [cross-talk]

23 STEVEN CAPUTO: ...and thank you for your
24 question. To date we've assessed over 100... so, in
25 addition to... you know we've gotten and a half

1 COMMITTEE ON ENVIRONMENTAL PROTECTION

2 megawatt in the ground, we have 30 megawatts in
3 development... [cross-talk]

4 CHAIRPERSON CONSTANTINIDES: Uh-huh...
5 [cross-talk]

6 STEVEN CAPUTO: ...we've assessed over 100
7 additional buildings including ones in your district...
8 [cross-talk]

9 CHAIRPERSON CONSTANTINIDES: Uh-huh...
10 [cross-talk]

11 STEVEN CAPUTO: ...which is why we're
12 poised to be able to develop those sites and we're
13 also... so, that's like on the assessment side, on
14 project delivery we're, we're developing new project
15 delivery mechanisms including contracts that we can
16 use on our own to develop city capital projects and
17 also third party partnerships, some of which have
18 already been, you know discussed before this
19 committee.

20 CHAIRPERSON CONSTANTINIDES: So, how... but
21 Steve look, looking at... there are two buckets, right,
22 so there's, there's those buildings that solar would
23 never work... [cross-talk]

24 STEVEN CAPUTO: Yep... [cross-talk]

25

1 COMMITTEE ON ENVIRONMENTAL PROTECTION

2 CHAIRPERSON CONSTANTINIDES: ...because
3 there's another building towering over it, that
4 there's no sunlight and then there's buildings that
5 are just because their roof is over age 15, they're
6 automatically disqualified from... [cross-talk]

7 STEVEN CAPUTO: Yep... [cross-talk]

8 CHAIRPERSON CONSTANTINIDES: ...solar
9 readiness, what are we doing as a city to invest
10 those dollars to get those building solar ready, do
11 we have a program, do we have sort of a hierarchy of
12 how do we sort of bring those buildings into
13 compliance, you know get those roofs fixed which is
14 good structurally for those buildings because you
15 have buildings that are too old, you know their roofs
16 are too old, those... a whole different set of
17 problems... [cross-talk]

18 STEVEN CAPUTO: Yeah... [cross-talk]

19 CHAIRPERSON CONSTANTINIDES: ...but once
20 they're renewed then they can take renewable energy,
21 how do we do that?

22 STEVEN CAPUTO: Yeah, thank you for that
23 question, I want to say... there's a lot of things
24 we're doing but I'll, I'll mention two... [cross-talk]

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COMMITTEE ON ENVIRONMENTAL PROTECTION

CHAIRPERSON CONSTANTINIDES: Uh-huh...

[cross-talk]

STEVEN CAPUTO: ...I think are, are going to really add value and, and capacity and we're also truly breaking down that dichotomy between solar and not solar ready so if it... the building is not solar ready we're going to get it to be solar ready in a much more proactive way so the, the two things that we're doing; one is we're working much more closely with the agencies to identify roofs that have a lot of potential but are in that zone of needing a roof repair and looking about how we can potentially use some supplemental funding to get them over the hump and we're, we're doing that with the Department of Sanitation, working closely with DEC, you'll be hearing about those projects soon. The second thing is we're incorporating roof repairs into our project delivery mechanism so... both with the New York Power Authority, we have a prequalified list of contractors that can do roof repairs so we're starting to see the roof repair piece or replacement as integral to the work and, and... or even willing to co-share funding for that with the agencies.

1 COMMITTEE ON ENVIRONMENTAL PROTECTION

2 CHAIRPERSON CONSTANTINIDES: Because... I
3 mean I, I look at certain buildings like in, in... and
4 I'll give an example in my community, there's a
5 building, PS 2... [cross-talk]

6 STEVEN CAPUTO: Uh-huh... [cross-talk]

7 CHAIRPERSON CONSTANTINIDES: ...that it's
8 the largest building in the neighborhood and it will
9 forever be the largest building in that neighborhood
10 because it's right next to La Guardia Airport...
11 [cross-talk]

12 STEVEN CAPUTO: Yeah... [cross-talk]

13 CHAIRPERSON CONSTANTINIDES: ...so, no one
14 is ever going to be able to build higher so that is a
15 prime category for lots of different renewable energy
16 rooftops... [cross-talk]

17 STEVEN CAPUTO: Yep... [cross-talk]

18 CHAIRPERSON CONSTANTINIDES: ...but the,
19 the building.. the roof is over 15 years old and, and
20 I think in those, those... that's a real opportunity
21 that I feel we can work together on to, to get there
22 I'm just wondering how we're prior... I know that
23 Donovan has buildings near JFK Airport... [cross-talk]

24 STEVEN CAPUTO: Uh-huh... [cross-talk]

25

1 COMMITTEE ON ENVIRONMENTAL PROTECTION

2 CHAIRPERSON CONSTANTINIDES: ...that
3 probably fit that same criteria and I... we could go on
4 and on so how do we like find those spots that we
5 know that forever they're going to be good solar
6 spots, let's, let's... how do we... how do we get there?

7 STEVEN CAPUTO: Yeah, without commenting
8 on the specifics of that site which I'm... [cross-talk]

9 CHAIRPERSON CONSTANTINIDES: I'm just
10 using it as an example... [cross-talk]

11 STEVEN CAPUTO: ...not... yeah, yeah... [cross-
12 talk]

13 CHAIRPERSON CONSTANTINIDES: ...I just... I
14 always like... [cross-talk]

15 STEVEN CAPUTO: ...I couldn't... we, we...
16 [cross-talk]

17 CHAIRPERSON CONSTANTINIDES: ...stories...
18 [cross-talk]

19 STEVEN CAPUTO: ...couldn't agree more that
20 in order to reach this 100 megawatt goal we have to
21 do exactly what you're saying like it's... we're... we
22 can't... we can't hit that goal if we just follow the
23 regular roof replacements, I go particularly for
24 these great opportunities so... and I've, I've been on...
25 only for nine months, we have a, a new team that

1 COMMITTEE ON ENVIRONMENTAL PROTECTION

2 people are joining, one last week, another the next
3 week who have solar and rooftop... roofing experience
4 so we're really poised to make the transition that
5 you're speaking to.

6 CHAIRPERSON CONSTANTINIDES: Great, thank
7 you. Thank you and I, I just have one more question
8 for DEP so before... and Donovan I'm going to hand it
9 over to you in a second. How are we... as we are making
10 repairs at DEP facilities how are we incorporating,
11 you know these types of renewable projects in... baking
12 those into the cake rather than... are we... are we
13 separating them out and saying, you know first we're
14 going to do these repairs and then we're going to do
15 renewables or are we... are we considering these as
16 part and parcel with one another?

17 MIKELLE ADGATE: Hi, good morning...

18 CHAIRPERSON CONSTANTINIDES: Good
19 morning. Did we swear you in already?

20 MIKELLE ADGATE: Sorry... sure.

21 [off mic dialogue]

22 MIKELLE ADGATE: No.

23 CHAIRPERSON CONSTANTINIDES: Okay, great.

24

25

1 COMMITTEE ON ENVIRONMENTAL PROTECTION

2 COMMITTEE CLERK SWANSTON: Do you swear
3 or affirm to tell the truth, the whole truth and
4 nothing but the truth today?

5 MIKELLE ADGATE: Yes. Good morning, my
6 name is Mikelle Adgate, I'm with the Bureau of Public
7 Affairs at DEP. To your question about sort of energy
8 upgrades at DEP facilities, we do have an Office of
9 Energy and a growing team that are looking at our
10 existing portfolio of buildings and opportunities. I
11 would say it's very case by case in terms of our
12 facilities, as you know DEP has a, a very wide
13 portfolio, different types of facilities each
14 requiring different needs and assessments, but that
15 Office is really looking at each of them in terms of
16 what their sort of day to day operations are and what
17 the opportunities are.

18 CHAIRPERSON CONSTANTINIDES: Because I
19 mean I look at some of the projects that are coming
20 down the pike and, and I see projects that are going
21 to take us till 2024, 2025 to complete... [cross-talk]

22 MIKELLE ADGATE: Uh-huh... [cross-talk]

23 CHAIRPERSON CONSTANTINIDES: ...and looking
24 at those projects if we don't build sustainability

25

1 COMMITTEE ON ENVIRONMENTAL PROTECTION

2 into them it means we have to wait until 2025 even to
3 start implementation... [cross-talk]

4 MIKELLE ADGATE: Right... [cross-talk]

5 CHAIRPERSON CONSTANTINIDES: ...which
6 doesn't make any sense to me, if we can... if we can do
7 both and, and make them simultaneous when they're...
8 when we're working on those roofs anyway... [cross-
9 talk]

10 MIKELLE ADGATE: Uh-huh... [cross-talk]

11 CHAIRPERSON CONSTANTINIDES: ...I think
12 that's an opportunity for us.

13 MIKELLE ADGATE: Yes and, and we
14 completely agree with you so in addition to the work
15 that our Office of Energy does within our Bureau of
16 Engineering and Design and Construction we have a
17 sustainability group that works very closely with the
18 design engineers as they're working on facility plans
19 and designs for new facilities but also retrofits to
20 our existing facilities. We use sort of the latest
21 technology and planning tools including Envision
22 which helps us to assess that development at, at the
23 planning stage so that we can incorporate not just
24 the designs but we can be sort of aware of the cost
25 and those impacts on the planning but by and large

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2 we're looking at every single project that's in the
3 pike in terms of what can we do to be more
4 sustainable and align with the larger energy goals of
5 the agency.

6 CHAIRPERSON CONSTANTINIDES: Okay.

7 Alright, so at this time I'm going to turn it over to
8 my colleague Donovan Richards for questions.

9 COUNCIL MEMBER RICHARDS: Just some quick
10 questions here, do you want to... oh, I guess you'll...
11 go ahead, do you want to acknowledge him oh... [cross-
12 talk]

13 CHAIRPERSON CONSTANTINIDES: Thank you
14 sir, I want to acknowledge that we have Council
15 Member Kalman Yeger from Brooklyn here, thank you.

16 COUNCIL MEMBER RICHARDS: Alright, great.
17 Thank you Chair. Can you speak to how many rooftops
18 citywide have had green roof systems installed?

19 MELISSA ENOCH: So, we don't have a
20 citywide database of green roof projects implemented
21 across the city, DEP tracks projects we've funded and
22 projects that we learn about in our green
23 infrastructure program asset management tracking
24 system and those are available on our public map. So,
25 for example, we track all the projects we fund

1 COMMITTEE ON ENVIRONMENTAL PROTECTION
2 through our grant program and any green roofs we
3 implement as part of our public property retrofit
4 program as well as all of the projects that went
5 through DOB's tax abatement program and some other
6 large-scale green roof projects that we have heard
7 about throughout... [cross-talk]

8 COUNCIL MEMBER RICHARDS: So, you
9 wouldn't be able to give us a... [cross-talk]

10 MELISSA ENOCH: A number, no, the, the
11 need... we had some numbers in our testimony about the
12 Nature... [cross-talk]

13 SUSANNE DESROCHES: Yeah, so the Nature
14 Conservancy and my understanding and maybe they're in
15 the room and are going to testify, is looking to
16 build a tool, an online tool but in the latest
17 numbers that we had which are in the testimony were
18 about 1,600 installations as of 2016 and that was
19 from the Nature Conservancy.

20 COUNCIL MEMBER RICHARDS: Alright, so
21 fore warning that may be a bill light there moving
22 forward. Can you... [cross-talk]

23 SUSANNE DESROCHES: I just want to say
24 that we would support that.

25

1 COMMITTEE ON ENVIRONMENTAL PROTECTION

2 COUNCIL MEMBER RICHARDS: Okay, so
3 joining... [cross-talk]

4 SUSANNE DESROCHES: Tracking, tracking
5 of... [cross-talk]

6 COUNCIL MEMBER RICHARDS: ...my legislative
7 director is here... [cross-talk]

8 SUSANNE DESROCHES: ...green roofs... [cross-
9 talk]

10 COUNCIL MEMBER RICHARDS: ...he's putting
11 it in right now. Alright, so I do want to circle back
12 to something many of my colleagues spoke about and I
13 think, you know obviously doing new roofs are much
14 easier because it's new construction, I wanted to go
15 back to your... or to your reservations and, and in,
16 in, in retroactively looking at buildings and if... and
17 if they are I mean how are you... are, are there
18 capital programs available, what... how much money are,
19 are within these capital programs that would enable
20 old buildings who primarily are... I mean we have a lot
21 of buildings in New York City, you know I'm sure
22 burning dirty oil, how do we... how do we get to a
23 point where we are looking to address those buildings
24 as well? Don't be shy.

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COMMITTEE ON ENVIRONMENTAL PROTECTION

MELISSA ENOCH: yeah, sure, so DEP is funding green roofs as part of its larger green infrastructure program that was mentioned in the testimony so we have a 1.5 billion dollar program to implement storm water source controls and combined sewer areas of the city to reduce combined sewer overflows and green roofs are a very important piece of that program because this is New York City, it's an alter urban environment and rooftops are good space for us to work in. We primarily work on... so, when I'm... when I'm thinking about public buildings we work with Parks, Public Housing and schools to implement cost effective green infrastructure where we can find that opportunity, often times that happens on at a site level because that... those parts of the properties allow us for high volume capture, storm water projects that are much more cost effective than green roofs. With that being said, green roofs are a part of the tool that we have available and some agencies want to pursue those, so we have a funding request in place now to do over 300,000 square feet of green roofs with the Parks Department and we're really excited... [cross-talk]

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2 COUNCIL MEMBER RICHARDS: City owned
3 buildings?

4 MELISSA ENOCH: City owned.

5 COUNCIL MEMBER RICHARDS: Okay... [cross-
6 talk]

7 MELISSA ENOCH: City owned... [cross-talk]

8 COUNCIL MEMBER RICHARDS: I'm... I want to
9 focus on private... [cross-talk]

10 MELISSA ENOCH: Private, okay... [cross-
11 talk]

12 COUNCIL MEMBER RICHARDS: ...buildings, so
13 are there any programs for private... [cross-talk]

14 MELISSA ENOCH: Right, so DEP implements
15 a green infrastructure grant program that is
16 primarily a retrofit program...

17 COUNCIL MEMBER RICHARDS: How much money
18 in that particular program?

19 MELISSA ENOCH: Well we've committed
20 about 15 million, almost 15 million dollars to date,
21 we... you know it's... when... in 2011 it started with
22 three million and we've more than quadrupled it since
23 then so it's part of our larger green infrastructure
24 capital budget, those are primarily retrofits because
25 the program design review lines up better with

1 COMMITTEE ON ENVIRONMENTAL PROTECTION
2 retrofits than it does with new construction. We
3 typically spend a lot of time working with the
4 private property owner to determine if their project
5 is the right fit before they submit and a lot of that
6 includes them undertaking a structural analysis,
7 reviewing all of the existing planning documents to
8 see if the building has structural capacity.

9 COUNCIL MEMBER RICHARDS: And how many
10 buildings have taken advantage of... landlord owners
11 have taken advantage of this and how much money has
12 been spent out of that 15 million you said?

13 MELISSA ENOCH: Yeah, so 32 projects.

14 COUNCIL MEMBER RICHARDS: So, 32
15 projects... [cross-talk]

16 MELISSA ENOCH: Many... and about 14
17 million has been committed to them.

18 COUNCIL MEMBER RICHARDS: So, 14 million
19 committed but how much has been spent?

20 MELISSA ENOCH: Well, I don't have that
21 number off the top of my head. We can get back to you
22 on that, there... of the 32 I would say a little over
23 25 have actually constructed and all of those funds
24 have been spent out to date... [cross-talk]

25

1 COMMITTEE ON ENVIRONMENTAL PROTECTION

2 COUNCIL MEMBER RICHARDS: And that's...

3 [cross-talk]

4 MELISSA ENOCH: ...the average award is
5 about 480,000 dollars roughly.. [cross-talk]

6 COUNCIL MEMBER RICHARDS: And that's 25
7 projects since 2011 or can you give me a... [cross-
8 talk]

9 MELISSA ENOCH: It's 32... oh, constructed?

10 COUNCIL MEMBER RICHARDS: Yes... [cross-
11 talk]

12 MELISSA ENOCH: About 25 since 2011.

13 COUNCIL MEMBER RICHARDS: So, could we do
14 better?

15 MELISSA ENOCH: We can, yeah.

16 COUNCIL MEMBER RICHARDS: Okay...

17 MELISSA ENOCH: We can do better.

18 COUNCIL MEMBER RICHARDS: That's, that's
19 a miniscule number you know 25, my son... [cross-talk]

20 MELISSA ENOCH: We're, we're... [cross-
21 talk]

22 COUNCIL MEMBER RICHARDS: ...wasn't even
23 born in 2011. So, how could we ensure that building
24 owners know that this program exists, what has been...
25 [cross-talk]

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2 MELISSA ENOCH: Sure... [cross-talk]

3 COUNCIL MEMBER RICHARDS: Are there
4 barriers, I'm just trying to understand why... [cross-
5 talk]

6 MELISSA ENOCH: Sure... [cross-talk]

7 COUNCIL MEMBER RICHARDS: ...its only 32...
8 [cross-talk]

9 MELISSA ENOCH: Sure... [cross-talk]

10 COUNCIL MEMBER RICHARDS: ...projects...
11 [cross-talk]

12 MELISSA ENOCH: ...that's a, a valid...
13 [cross-talk]

14 COUNCIL MEMBER RICHARDS: ...over the
15 course of... [cross-talk]

16 MELISSA ENOCH: ...question, yeah... [cross-
17 talk]

18 COUNCIL MEMBER RICHARDS: ...eight years
19 now?

20 MELISSA ENOCH: Yeah, seven, seven full
21 years of the program so... [cross-talk]

22 COUNCIL MEMBER RICHARDS: Seven, okay...
23 [cross-talk]

24 MELISSA ENOCH: ...we have made a lot of
25 improvements over the years so we took the program

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2 citywide last year, so we used to just be limited to
3 the combined sewer area, but we see green roofs as an
4 important tool to meeting our other water quality
5 objectives in separately sewerred areas of the city
6 too so now we're citywide. We accept applications on
7 a rolling basis which we think helps people with
8 their project time lines. We released a, a green roof
9 funding schedule last year to give us... it's a big
10 dollar amount that DEP has available for green roof
11 projects based on soil depth and project size, we
12 feel like that has reduced a lot of the uncertainty
13 and people can plan with their project teams when
14 they come in the door and see exactly how much
15 funding is available. We've streamlined some of the
16 insurance requirements so I just want to let
17 everybody know that this is a capitally funded
18 program and there are limitations to spending those
19 funds on private properties and some... there are some
20 impediments and we've been working really hard with
21 the Law Department and OMB to make sure that we can
22 make it as streamlined as possible.

23 COUNCIL MEMBER RICHARDS: Alright, so I
24 would love to hear just on a side note how we can...
25 [cross-talk]

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2 MELISSA ENOCH: Do more... [cross-talk]

3 COUNCIL MEMBER RICHARDS: ...be helpful and
4 ensuring all the different agencies, OMB... [cross-
5 talk]

6 MELISSA ENOCH: Right... [cross-talk]

7 COUNCIL MEMBER RICHARDS: ...the bean
8 counters... [cross-talk]

9 MELISSA ENOCH: Yeah... [cross-talk]

10 COUNCIL MEMBER RICHARDS: ...who I know
11 probably are, are a big impediment to certain
12 projects moving forward, so I'm, I'm interested, I'm
13 sure the Committee will, will explore that. Lastly I
14 just wanted to, to hit on how are you working with
15 HPD specifically so there are buildings that... where
16 the Article XI needs to be... to come up or comes up
17 again perhaps at the council, how are you working
18 with HPD through old construction especially when
19 landlords come to us and they want to renew their,
20 their Article XI, tax abatements, is there a process
21 with HPD to incorporate green energy as buildings
22 come up?

23 [off mic dialogue]

24 COUNCIL MEMBER RICHARDS: That means now...

25 SUSANNE DESROCHES: Okay... [cross-talk]

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2 COUNCIL MEMBER RICHARDS: Okay.

3 SUSANNE DESROCHES: Well... sorry, no, no,
4 I asked him a different question... [cross-talk]

5 COUNCIL MEMBER RICHARDS: Okay... [cross-
6 talk]

7 SUSANNE DESROCHES: ...So, you know well
8 there's a lot of coordination across agencies both on
9 the solar side as well as... we haven't talked a lot
10 about the CoolRoofs program which is... [cross-talk]

11 COUNCIL MEMBER RICHARDS: Uh-huh, it's a
12 big program... [cross-talk]

13 SUSANNE DESROCHES: ...something that, you
14 know we're really excited about and think is a very
15 low cost, easy way to retrofit a building so anyone
16 that's not familiar with it we're happy to provide
17 more information about how it can be done at low
18 cost. So, my under... and we will... we need to get back
19 to you specifically on HPD and the green... [cross-
20 talk]

21 COUNCIL MEMBER RICHARDS: Uh-huh... [cross-
22 talk]

23 SUSANNE DESROCHES: ...program but, but I
24 know that a lot of coordination happens on the solar
25 side and cool roofs in particular.

1 COMMITTEE ON ENVIRONMENTAL PROTECTION

2 COUNCIL MEMBER RICHARDS: Okay, so we
3 look forward to hearing a little bit more about that.
4 Thank you for the work that you are doing though, of
5 course I have... we have to push you, I still do think
6 32 projects is not in my opinion, I can't speak for
7 anyone else, showing a real serious commitment to
8 greening roofs so I, I would hope that we're going to
9 push much harder especially if we're going to reach
10 that 80 by 50 goal that we set. Thank you.

11 CHAIRPERSON CONSTANTINIDES: Thank you
12 Council Member Richards, Council Member Espinal has
13 another question.

14 COUNCIL MEMBER ESPINAL: Thank you. Going
15 back to the, the green roof program, what's the
16 minimum square footage you need to know to be able to
17 qualify for it?

18 MELISSA ENOCH: There's a 3,500 square
19 foot minimum.

20 COUNCIL MEMBER ESPINAL: Is there a
21 reason behind that, is there any way we can expand
22 that? I, I, I do believe there'll be a lot of
23 homeowners with townhouses especially who would be
24 interested in greening their rooftops and taking
25 advantage of a program like that?

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2 MELISSA ENOCH: Sure, so right now it's
3 dictated by the capital funding minimum of 35,000
4 dollars so if you look at the new incentive schedule
5 we set out where we identified sort of the cost
6 effective dollar per square foot available for
7 private property owners, 35,000 is the minimum so
8 it's based on a one inch soil... one and a half inch
9 soil depth roof at ten dollars a square foot so that...
10 the math works out that it's 3,500 square feet.

11 COUNCIL MEMBER ESPINAL: That's for one
12 inch... [cross-talk]

13 MELISSA ENOCH: One and a half... [cross-
14 talk]

15 COUNCIL MEMBER ESPINAL: ...what if they
16 decided to put in a three inch?

17 MELISSA ENOCH: Yeah, so the, the funding
18 schedule outlines sort of the dollar per square foot
19 so anyway you look at it the, the minimum would still
20 be 3,500 square feet.

21 COUNCIL MEMBER ESPINAL: Is there any way
22 where we could change that minimum legislatively?

23 MELISSA ENOCH: Yeah, so that brings up a
24 good point, so we submitted a funding request last
25 fall to switch our program from capital to expense,

1 COMMITTEE ON ENVIRONMENTAL PROTECTION

2 there are restrictions with using capital dollars on
3 private property and we feel we've taken the program
4 to where we can take it with capital dollars. So,
5 moving the program to an expense funding would allow
6 us to make some additional streamlining, we would
7 still have a maintenance requirement and you know
8 restrictions that come along with executing a
9 contract with the city of New York but we feel like
10 we can make some additional streamlining measures
11 and, and one of those may be reducing the minimum
12 square footage.

13 COUNCIL MEMBER ESPINAL: Okay, has, has
14 DEP ever thought about maybe creating an incentive
15 that would push homeowners, building owners who have
16 a yard space to turn their asphalt into green spaces?

17 MELISSA ENOCH: That has been requested
18 often, the way our green infrastructure program works
19 is that we, we get credit for impervious area managed
20 so a straight retrofit of asphalt to just grass
21 wouldn't allow us to meet our regulatory commitments
22 but that's certainly something that comes up a lot
23 and I know that there have been some building code
24 revisions to encourage or, or stop that from
25 happening as well.

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2 COUNCIL MEMBER ESPINAL: Okay, thank you.

3 MELISSA ENOCH: Uh-huh.

4 CHAIRPERSON CONSTANTINIDES: I' want to
5 thank this panel for your time, I look forward to
6 working with you to get both these bills implemented
7 and to make our city greener and more sustainable so
8 thank you for the work.

9 MELISSA ENOCH: Thank you.

10 SUSANNE DESROCHES: Thank you.

11 CHAIRPERSON CONSTANTINIDES: Alright.

12 Alright, so moving forward we are going to have
13 everybody on a three-minute clock, I ask you to stay
14 to that three minutes, again we will take your
15 testimony, your written testimony, read it,
16 absolutely look to it and see if... what we can
17 incorporate so thank you. So, Alan Burchell, Urban
18 Strong; Melissa Daniels, Green Roofs for Healthy
19 Cities; Zack Steinberg from the Real Estate Board of
20 New York; Tim Barrett from GRHC, I hope that's the
21 right... I'm reading that right..

22 [off mic dialogue]

23 CHAIRPERSON CONSTANTINIDES: Yep, okay
24 and Emily Maxwell from the Nature Conservancy.

25 [off mic dialogue]

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2 CHAIRPERSON CONSTANTINIDES: Am I missing
3 somebody up there? Alan Burchell; Melissa Daniels;
4 Zack Steinberg; Tim Barrett, Tim come up.

5 MELISSA DANIELS: Hello, thank you. Alan
6 has asked that I start so he can get his presentation
7 ready for you guys so... okay, my name is Melissa
8 Daniels. I am here representing Green Roofs for
9 Healthy Cities. I want to thank the Chairman and the
10 Committee for the opportunity to speak today. Again
11 I, I am here representing as a Board Director of
12 Green Roofs for Healthy Cities, a nonprofit member-
13 based association whose mission is to develop the
14 green roof and wall industry throughout North
15 America. My firm, Plant Connection has worked on
16 hundreds of thousands of square footage of green roof
17 and walls throughout North America for the past 12
18 years; most notably local green roofs at City Field,
19 Solaire and Verdesian buildings in Battery Park and
20 the 4,000 square foot Living Wall on Liberty Street
21 across from the World Trade Center 9/11 memorial. As
22 the impacts of climate change worsen in cities, we
23 need policies like those you have proposed to utilize
24 our roofs and walls for both a reduction in
25 greenhouse gases and to adapt a climate change

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2 impacts like those we saw at superstorm Sandy. The
3 rapid transformation of the roofs and walls of our
4 cities can make my... life much better for the citizens
5 of New York City in the decades to come. Since green
6 roofs provide a wide variety of public and private
7 benefits, we work with policy makers in cities across
8 North America to craft effective policies to grow the
9 green roof market. In the past three years for
10 example, we have worked with the city of San
11 Francisco on its Better Roofs Ordinance which
12 requires green roofs and or solar panels on all new
13 buildings. In Portland, Oregon, we worked to
14 implement a mandatory green roof requirement on all
15 new buildings as well. In Denver, Colorado, the
16 majority of people in that city voted in a ballot
17 initiative in favor of mandatory green roof
18 requirements for both new and existing buildings just
19 last year. Unfortunately, New York has not been out
20 in front with these proposed policies, as a
21 comparison for example with the city of Toronto which
22 is now celebrating ten years of mandatory green roof
23 requirements and the addition of more than six
24 million square feet of green space. The cities of
25 Chicago and Washington DC, both have regulations on

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2 new development that essentially require green roofs
3 on new buildings and both cities have implemented
4 millions of square feet over the past decade. While
5 New York City regularly sits among the top 10 North
6 American municipalities for installed green roof
7 square footage, further investigations of these
8 values find that compared to other cities in that
9 ranking, New York falls quiet low. According to our
10 annual reporting of green roof installation, while
11 ranking sixth in overall installed square footage,
12 green roofs in New York City green roof square
13 footage per capita and per metropolitan area in
14 square footage sits well below other cities in the
15 top 10. Across the last ten years of reporting, New
16 York City's installed square footage of green roof
17 represents about 77.4 square feet of green roof per
18 square mile of city area and .12 square feet per
19 capita. For comparison, Chicago ranked only one place
20 higher than New York, saw green roof installations at
21 125.7 per square feet per square mile and .5 square
22 feet per capita over the same period. New York City
23 has an unprecedented opportunity to seize on the
24 myriad benefits of these technologies, both for the
25 public and private bottom lines as well as for the

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2 environment and has the unique potential to become
3 the green leader in the United States and North
4 America with policies to support it. One of the
5 amazing things about green roof technology... [cross-
6 talk]

7 CHAIRPERSON CONSTANTINIDES: If you
8 could... if you could please wrap up.

9 MELISSA DANIELS: Oh, okay.

10 CHAIRPERSON CONSTANTINIDES: Thank you.

11 MELISSA DANIELS: Other organizations can
12 testify to the many public green roof benefits, such
13 as reduction in our urban heat island effect and
14 superior stormwater management. However, one of the
15 important benefits of green roof policy is its
16 ability to generate new employment opportunities in
17 New York City. In essence, green roofs can not be
18 imported from China or Mexico and have... and by their
19 nature creates truly sustainable local job
20 opportunities. Some of these employment opportunities
21 are well suited to marginalized populations within
22 urban areas and can contribute to greater social
23 justice. One year of employment in the green roof
24 industry is generated from 45 to 65,000 dollars in
25 investment because green roofs are labor intensive.

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2 Our analysis of the Denver Green Roof initiative
3 indicated that over a 15-year period of time,
4 mandatory green roofs on new and existing buildings
5 would have generated 25,000 job years of employment.
6 This analysis includes an assumption of 125 acres of
7 roof space for food production. Moreover, green roof
8 projects, like Millennium Park in Chicago or the High
9 Line generate increased tourism trade and facilitate
10 additional real estate develop and job opportunities.
11 New York is poised to grow significantly with the
12 passage of New... supportive legislation. There are
13 very few opportunities... [cross-talk]

14 CHAIRPERSON CONSTANTINIDES: I'm, I'm
15 really sorry, I need... [cross-talk]

16 MELISSA DANIELS: Okay... [cross-talk]

17 CHAIRPERSON CONSTANTINIDES: ...you to, to
18 really summarize and wrap up... [cross-talk]

19 MELISSA DANIELS: Okay... [cross-talk]

20 CHAIRPERSON CONSTANTINIDES: Please,
21 thank you so much.

22 MELISSA DANIELS: There are very few, few
23 opportunities for public policy makers to pass
24 policies that provide a wide range of public benefits
25 simultaneously, while providing tangible, bankable

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2 private benefits and make use of wasted space in
3 urban areas. Green roofs are not a radical idea or
4 policy direction. It's time New York joins other
5 world class cities and utilizes these wasted spaces
6 to fight climate change and prepare for its impact.
7 Thank you.

8 CHAIRPERSON CONSTANTINIDES: Thank you...

9 MELISSA DANIELS: You next Alan... [cross-
10 talk]

11 CHAIRPERSON CONSTANTINIDES: Alright,
12 next up.

13 ALAN BURCHELL: Okay. Wow, that's a fast
14 three minutes. Okay... [cross-talk]

15 CHAIRPERSON CONSTANTINIDES: Its, it's a
16 real three minutes... [cross-talk]

17 ALAN BURCHELL: ...I'm going to... [cross-
18 talk]

19 CHAIRPERSON CONSTANTINIDES: So... [cross-
20 talk]

21 ALAN BURCHELL: ...It's a real three
22 minutes, okay I'm going to blast through this, just
23 know that if anybody wants these slides, they can be...
24 you can just contact me, and I can give them to you.
25 My name is Alan Burchell, I'm the Founder and

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2 Principal of Urban Strong, we offer design, build,
3 and maintenance services for green roofs. The vendors
4 that we work with have designed hundreds of thousands
5 of square feet of green roofs over the last ten years
6 or so. Here's a snapshot of some of the modern issues
7 facing dense urban centers like New York City and as
8 we've heard many times today green roofs combat all
9 of them directly, there's other... many more benefits
10 not mentioned here including the long tail of tax
11 revenue that come from the maintenance of these green
12 roofs as well as the skilled job creation that green
13 roofs bring to a city. I like to... I like to speak in
14 metaphors, green roofs are like a swiss army knife in
15 terms of the benefits that they offer cities; tools
16 for combatting the issues that they're facing be it
17 urban center issues or climate change issues. This is
18 one... just a high level overview of one reason why the
19 New York City property tax abatement was too low and
20 why I definitely stand for raising it to 15 dollars
21 basically the upfront requirement to get started with
22 a green roof property tax filing and the surveying to
23 retain an architect and whatnot can be five to 8,000
24 dollars at the low end and if you're only getting
25 back \$5.23 per square foot that means the cut off

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2 size is somewhere around 1,000 to 1,500 square feet.
3 Just for context, the Brownstone is about 800 square
4 feet with about 500 square feet plantaris so moving
5 it up to 15 dollars would get you there because the
6 going rate is about 15 to 30 dollars in New York
7 City. I'm going to zero in today on the benefits of
8 integrating green roofs with solar, a lot of people
9 think that these two technologies are competitors,
10 they do compete for real... rooftop space right now but
11 that's only because people aren't aware of how they
12 can be integrated together. Here's one sample of
13 technology, this shows how they can be integrated
14 together physically in the same space. Not only are
15 these... not only can they be physically integrated in
16 the same space, but they actually work together
17 harmoniously and centristically they boost each
18 other's performance. A quick overview of how this
19 happened is that plants through the process of
20 phytoremediation they, they actually sweat through
21 their pores or the stomata in the leaves, this
22 process is called transpiration, this act of sweating
23 cools the air around them. This is a snapshot of spec
24 sheet of a standard solar panel, the brand doesn't
25 matter, it basically shows the temperature

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2 performance coefficient. In summary, every solar
3 panel below a certain base case which is 77
4 Fahrenheit, for every degree that the ambient air
5 reaches around that solar panel they lose efficiency.
6 So, if you can somehow keep the air around them
7 cooler you boost the performance of that solar panel
8 in terms of its ability to produce electricity.
9 Average rooftops... this was a study done on a Con Ed
10 building, average rooftop temperatures for black
11 roofs can... as of April onwards can hit 150 up to 170
12 Fahrenheit, that's a full 100 degrees Fahrenheit
13 above the base case study. Green roofs basically
14 reduce the, the temperature ceiling up on those
15 rooftops keeping them at a maximum of say 90 or 100
16 Fahrenheit which can claw back upwards of 15, 20, 22
17 percent efficiency and... yeah, that... this is just how
18 they all work, how they blend together, it's all in
19 your notes there... [cross-talk]

20 CHAIRPERSON CONSTANTINIDES: Yep... [cross-
21 talk]

22 ALAN BURCHELL: ...and here's some unique
23 benefits for solar green roofs in the city. That's a
24 real three minutes hey.

25

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2 CHAIRPERSON CONSTANTINIDES: That's a
3 real three minutes brother.

4 ALAN BURCHELL: Gotcha, I appreciate...

5 CHAIRPERSON CONSTANTINIDES: Well I
6 appreciate it, thank you for your testimony.

7 ALAN BURCHELL: Yeah, sure, sure.

8 CHAIRPERSON CONSTANTINIDES: And please
9 everyone stays on the panel so we can ask any
10 questions that are needed so, no one get up, next.

11 ZACK STEINBERG: Good morning Mr.
12 Chairman and members of the Committee. My name is
13 Zack Steinberg and I'm the Vice President at the Real
14 Estate Board of New York. As noted in testimony REBNY
15 submitted to this committee last month, the
16 challenges posed by climate change are profound and
17 merit significant attention. Indeed, that is why we
18 support the Council's efforts to find smart, targeted
19 ways of reducing building energy consumption and it
20 is also why many of our members have already taken
21 significant steps to improve energy efficiency, cut
22 energy use and reduce greenhouse gas emissions. I
23 will submit full testimony in writing and focus the
24 rest of my comments on Intros 276 and 1032. These
25 bills would mandate the installation of solar panels,

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2 green roofs or wind turbines in various degrees on
3 different types of buildings. As drafted however, the
4 measures fail to recognize that not all rooftops in
5 New York City are appropriate for them. Many
6 buildings in the city do not get adequate sunlight to
7 make solar panels useful to generate energy and
8 without adequate sunlight green roofs quickly turn
9 into brown roofs as plants die off. This issue is
10 particularly important given proposed Intro Number
11 1253 that would require building owners to take steps
12 to reduce building greenhouse gas emissions. As
13 currently drafted, that measure provides building
14 owners with the flexibility to meet the emissions
15 limits through whatever means the building owner
16 determines is most appropriate. This legislation,
17 however, would force building owners to use their
18 resources to install specific systems on their
19 rooftops even if other investments would do more to
20 help reduce their building's greenhouse gas emissions
21 or reduce energy consumption. The interaction of
22 these bills is notable given concerns that... about
23 these measures that they do not provide sufficient
24 guidance on whether they would apply to new
25 construction only or if they would also apply to

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2 existing structures under certain circumstances as
3 we've discussed. Practical factors will also
4 complicate the ability of building owners to comply
5 with this legislation. Specifically, such a
6 requirement would create a conflict with the zoning
7 code, in high density residential districts the
8 zoning resolution controls for the provision of open
9 space, this requirement is often fulfilled with the
10 provision of set aside rooftop space with tenant
11 access and recreation. The bill as drafted would
12 require an open space encroachment that would negate
13 a requirement already adopted by this body.

14 Additionally, building owners currently may reserve
15 rooftop space for uses important to the building and,
16 and safety including to allow for the safe use of
17 window washing rigs, antennas and broadcast
18 equipment, water tanks and others. Further, in some
19 building's rooftop spaces are actually leased to
20 tenants and therefore not in control of the building
21 owner. This legislation does not sufficiently
22 recognize these potential complications. Finally, key
23 terms in the bills including rooftop and mechanical
24 equipment are not defined and should be refined in
25 order to provide more clarity as to what is meant by

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2 those terms. As an alternative, given the
3 complexities raised by amending the building code in
4 these ways, REBNY encourages that these issues be
5 more fully considered as part of the Department of
6 Building's ongoing building code revision process. If
7 the Council does choose to move forward with these
8 measures, we would welcome the chance to discuss ways
9 of crafting legislation that achieves our shared
10 goals of reducing building energy consumption,
11 restricting greenhouse gas emissions and ultimately
12 limiting the harmful effects of climate change. Thank
13 you for the opportunity to testify.

14 CHAIRPERSON CONSTANTINIDES: Thank you,
15 next up.

16 TIM BARRETT: Good morning Mr. Chairman
17 and Council Members. My name is Tim Barrett, I'm the
18 President of the Barrett Company, we're a system
19 supplier of green roofs, we've been doing this for..
20 nationally for about 20 years and I was asked by
21 Greene Roofs for Healthy Cities to address the issues
22 from our point of view as system suppliers and to
23 speak to some of the issues from our end. First, I'd
24 like to talk about what quality control safeguards
25 are available and how does that tie into what happens

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2 if a green roof leaks, we hear that a lot that... what
3 if it leaks. Well the QC that we're using and, and
4 most of the industry is using is called Electric
5 Field Vector Mapping, which in simple terms is an
6 electrical pulsating charge is put into the deck
7 underneath the green roof and the surface is, is
8 wetted down so if there's void in the water proofing,
9 any damage the electricity will flow through the
10 water proofing and they'll detect it on the topside
11 with the electrical detector and they vector in on
12 the spot where the, the defect or the damage is and
13 you have a very simple fix. So, what happens when a
14 roof leaks, it's not a big deal. Secondly, what about
15 roof damage, well we have roof barriers that are
16 proven, we have standards to... that, that address long
17 term performance and roof damage is no longer an
18 issue. Do green roofs protect or hurt roofs? Some
19 people will tell you they hurt roofs because they are
20 always moist and they're going to damage the
21 waterproofing. Well there's not a lot of truth to
22 that, if a waterproofing material is used it will
23 protect the environment, there... how... I don't know
24 how... exactly how to phrase this but the, the... in a
25 conventional green roof assembly the, the membrane is

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2 protected by the installation and the soil and the
3 vegetation. So, you've taken away virtually
4 everything that hurts a green roof; the UV, rooftop
5 traffic, and, and there's a third one I can't think
6 of it right now... oh, the, the maintenance people, the
7 plumbers and the electricians that are up on the roof
8 and, and tend to damage roofing. So, that... it's
9 pretty much accepted within, within the industry that
10 a protected green roof will last two to three times
11 longer than a conventional roof. When you think about
12 that and the environmental impact on dumps its huge.
13 If a standard roof lasts 17 years and a green roof
14 lasts three times that much we've reduced nine
15 million tons going to the dump every year for the
16 extra years that we've saved.

17 CHAIRPERSON CONSTANTINIDES: If you can
18 begin wrapping up, yes.

19 TIM BARRETT: Okay. It goes so fast. I'm,
20 I'm the fourth generation of my family to be in the
21 roofing business and all types of roofing are net
22 polluters whether it's the, the hot tar, hot asphalt,
23 PVC, EPDM, the rubber sheets, the PMMAs they all
24 between manufacturing, installation, and disposal
25 they all are net polluters. With green vegetated

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2 roofs for the first time our industry can become a
3 net contributor to the environment and if that's not
4 enough reason to enact the legislation you're talking
5 about I don't know what is. Thank you.

6 CHAIRPERSON CONSTANTINIDES: Thank you
7 very much, I appreciate it, thank you. Next up.

8 EMILY NOBEL MAXWELL: Thank you. Hi,
9 good, good morning, my name is Emily Nobel Maxwell, I
10 am the New York City Program Director for the Nature
11 Conservancy in New York and you heard a little bit
12 about our research. Just to briefly tell you about
13 us, we are a global conservation organization, the
14 biggest in the world. We operate in all 50 states and
15 in 70 countries, we also run urban conservation
16 programs in more than 25 cities across the United
17 States. In New York we have 90,000 members, 35,000
18 of whom live right here in New York City just to give
19 you a little bit about who we are. We also have a
20 very strong legislative team in Albany who we
21 collaborate with on all things legislative and
22 policy. So, I am here today to express our strong
23 support for the ongoing efforts to green and better
24 utilize rooftops across New York City to encourage
25 the Committee to advance legislation that will

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2 expedite the expansion of green roofs across New York
3 City especially in the neighborhoods that need them
4 most and to offer our collaboration to advance such
5 efforts at the city and state levels. Many people in
6 this room know that nature and all things green play
7 a crucial role in the life of New York City and that
8 our rooftops are a largely untapped resource that
9 offer a suite of compelling and multiple benefits to
10 our communities. I won't enumerate these all, but I
11 would like to put this in context that by 2080 we
12 expect that the frequency of heat waves will triple
13 and that we, we will see 1.5 more times extreme
14 precipitation events. Green roofs play a critical
15 role in absorbing storm water and in mitigating
16 extreme heat, so we know that this asset is
17 necessary. Despite the myriad benefits that this
18 asset offers, the Nature Conservancy realized a few
19 years ago that there actually wasn't a clear picture
20 of how our rooftops were being used across the city
21 and so we indevoured along with some partners from
22 the Green Roof Research Alliance to actually answer
23 that question. I'll tell you all that the news is not
24 great unfortunately and we can do a lot better. Our
25 research found that as of 2016 of the approximately

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2 million buildings in this city that if you put them
3 together they constitute an entire boroughs worth of
4 land that less than 750 of them have green roofs,
5 roofs that's less than point one percent so we know
6 that we can do better and we applaud you all for, for
7 making that effort. Not only is the percentage low,
8 we also found that the majority of those roofs are in
9 Manhattan, particularly downtown Manhattan so as we
10 think about issues of equity and real need across our
11 city, we know that this asset is not yet reaching the
12 neighborhoods that need it most. What can we do about
13 that and let me just note we'd be shared.. pleased to
14 share more robust, you know findings... [cross-talk]

15 CHAIRPERSON CONSTANTINIDES: I, I, I
16 would like to see those please.

17 EMILY NOBEL MAXWELL: Yeah, absolutely,
18 we can get that to you. We want to encourage that
19 when looking at the potential options to expand green
20 roofs across the city let's take a look at where
21 they're most needed. For example, priority water
22 sheds by DEP, we can also look at the heat
23 vulnerability index as designated by the Department
24 of Health and Mental Hygiene and open space starved
25 communities and schools. I will stop there because my

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2 time is up but I'm very pleased to be with you today
3 and we really offer ourselves as an ally and a
4 partner.

5 CHAIRPERSON CONSTANTINIDES: I really
6 want to thank all of you, don't, don't get up yet,
7 I'm ask... we have a few questions but I want to begin
8 by thanking you all for your testimony and your
9 advocacy, you've raised a lot of really interesting
10 points and questions and look forward to partnering
11 with you not just on this legislation but on other
12 things we can do as a city, right just, just because
13 we pass this legislation today doesn't mean we're
14 done and we can go home and celebrate there's going
15 to be a lot more work to do so I definitely would
16 love to see more data and more opportunities to talk
17 about these issues. So, I want to recognize my
18 colleague Council Member Steve Levin from Brooklyn
19 who also has questions.

20 COUNCIL MEMBER LEVIN: Thank you very
21 much Mr. Chair. I just want to ask a quick question
22 to this panel. With regard to the city... New York
23 City's incentives, tax incentives to build green
24 roofs I'm curious how you see that fitting within the
25 overall kind of spectrum of different cities,

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municipalities or states in terms of their incentives and whether it's sufficient. My understanding is it's five dollars a square foot where if you were to compare that to Washington DC or... I'm not sure what Philadelphia has but I think it's better than that, you know it's, it's, it's not... it's not enough to cover the cost or the... that are associated with a... with a conversion or a build out and I was wondering if you could speak to that, anyone on this panel?

EMILY NOBEL MAXWELL: I can take a quick

crack at it, so I'm not an expert on the tax incentives that exist in other cities although we could probably quickly find and provide that information for you all if, if it's of interest but I think what we can observe is that the five dollar credit or abatement has been ineffective and that a larger abatement or credit would be beneficial and I, I can say that... I don't know that we know the exact number, but I think the Nature Conservancy would like to see a more robust abatement and that there could be consideration given to a tiered abatement structure based on needs such as those that I mentioned in my testimony.

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2 COUNCIL MEMBER LEVIN: Okay, yeah, I
3 would love to kind of see if you're able to do any
4 research just on, on... you know I'm... I was at a panel
5 a couple of years ago with somebody from Washington
6 where I think they have a 15 dollar abatement and
7 that, you know clearly has different effects, I mean
8 it would... it draws more people into the program and I
9 think we can afford it and I think it's beneficial
10 to, to our city and to our overall environment and so
11 I see no reason not to do it and that's why I have a
12 resolution 66 to call on the state to do that.

13 TIM BARRETT: I would like to add if I
14 can that in Washington besides the 15 dollars, they
15 will expedite all the permitting process... [cross-
16 talk]

17 COUNCIL MEMBER LEVIN: Uh-huh... [cross-
18 talk]

19 TIM BARRETT: ...so that rather than
20 waiting six months, typically you can get stuff
21 through in two weeks and for developers that means
22 money.

23 COUNCIL MEMBER LEVIN: Right, so we... I
24 just want to note for the record we did see a lot of
25 waving fingers in the crowd for that point.

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2 MELISSA DANIELS: And for the record
3 Chicago implemented that strategy in their policies
4 and it did a lot to, to accelerate the, the growth of
5 green roofs in their city.

6 COUNCIL MEMBER LEVIN: Yes sir.

7 ALAN BURCHELL: I'd also like to chime in
8 and make sure that when you're doing these
9 comparisons make sure that you're comparing apples to
10 apples because, you know five dollars per square
11 foot, let's say if that was the case across the
12 country you have to understand that New York City can
13 be significantly more expensive to do... [cross-talk]

14 COUNCIL MEMBER LEVIN: Yeah... [cross-talk]

15 ALAN BURCHELL: ...this kind of work and
16 when you... when you talk about, you know cranes and
17 permitting and construction and labor and getting all
18 the materials there on site so think of it as a
19 percentage of what the typical going rate is to see
20 how helpful these... [cross-talk]

21 COUNCIL MEMBER LEVIN: So, then... [cross-
22 talk]

23 ALAN BURCHELL: ...incentives are.

24 COUNCIL MEMBER LEVIN: So, then five
25 dollars is even less impactful in comparison?

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2 ALAN BURCHELL: Yes...

3 COUNCIL MEMBER LEVIN: The, the other...
4 the other city I remember was on this panel was
5 Toronto where they're... they have a... I believe a
6 mandate or an alternative kind of contribution to the
7 city and I think like the vast majority of... first...
8 for building... roofs over a certain size and I think
9 the vast majority of buildings were actually doing
10 the green roofs as opposed to paying into the fund so
11 that's another approach, it's just... you know
12 mandating it.

13 ALAN BURCHELL: Yeah, the, the program
14 there has been very successful, and I would like to
15 just put her point in a perspective when she said
16 that only point... was it point one percent of
17 rooftops?

18 EMILY NOBEL MAXWELL: Less than point one
19 percent... [cross-talk]

20 ALAN BURCHELL: Less than point one
21 percent of roof tops are green in New York City. By
22 comparison in Germany over 20 percent of flat
23 rooftops have vegetated... [cross-talk]

24 COUNCIL MEMBER LEVIN: Yeah... [cross-talk]

25

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2 ALAN BURCHELL: ...rooftops at the moment,
3 that's more than one out of every five buildings...
4 [cross-talk]

5 COUNCIL MEMBER LEVIN: Right... [cross-
6 talk]

7 ALAN BURCHELL: ...where the flat roof has
8 a green roof.

9 COUNCIL MEMBER LEVIN: Right and frankly
10 I mean I'll just say this and then I'll turn it back
11 to the Chair that, you know I was on this... I was part
12 of this panel I think like two or three years ago,
13 we've missed an entire building cycle since that time
14 and you know I represent downtown Brooklyn and
15 Greenpoint and Williamsburg where, you know I've seen
16 hundreds of buildings go up in the last five years,
17 hundreds of buildings go up in the last five years
18 with all... you know some of them are more vertical
19 than, you know horizontal but, you know I see
20 hundreds of... I mean in that I see hundreds of missed
21 opportunities, you know and so to your point the
22 delta between point one percent and 20 percent is...
23 you know that's a lot of room to grow but is
24 obviously achievable because we're not... you know
25 buildings are buildings whether they're in Germany or

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2 New York City so like what are we doing wrong and
3 what are they doing right and how can we fix it.

4 ALAN BURCHELL: I think something that's
5 contributed to it as well is in 1968 I believe it was
6 they overhauled the building code and they concluded
7 that the rooftop loading had been over engineered and
8 so ironically the newer buildings that have been
9 build have much weaker rooftop support. One thing I'd
10 like to throw in here is, you know there's, there's a
11 lot of potential for developing the rooftops in New
12 York City but frankly we don't know what's available
13 to do the initial engineering survey, the structural
14 survey to see what's available for rooftops, it can
15 be very cost prohibitive, at the low end it can be
16 three to five thousand dollars for like a small
17 building and while it is retroactively reimbursed
18 through the DEP grant program it's only reimbursed if
19 you wind up going into the DEP grant program and so
20 this... [cross-talk]

21 COUNCIL MEMBER LEVIN: Uh-huh... [cross-
22 talk]

23 ALAN BURCHELL: ...can be a bit of a
24 barrier to entry. I think it would be in cities,
25 city's best interest to know what can their building,

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2 building stock support on the rooftop so I would like
3 to propose somehow, you know earmarking funds or...
4 [cross-talk]

5 COUNCIL MEMBER LEVIN: Uh-huh... [cross-
6 talk]

7 ALAN BURCHELL: ...incentivizing or
8 subsidizing a structural survey of all the rooftops
9 in the city just to know what's up there, what's
10 available.

11 COUNCIL MEMBER LEVIN: Right, maybe
12 through the form of a tax abatement, I think that we
13 would be prevented from giving a direct grant perhaps
14 but... [cross-talk]

15 ALAN BURCHELL: Regardless of what
16 direction you go with it, you know let's... [cross-
17 talk]

18 COUNCIL MEMBER LEVIN: Uh-huh... [cross-
19 talk]

20 ALAN BURCHELL: ...let's see what we have
21 available to work with across the city.

22 COUNCIL MEMBER LEVIN: There's obviously
23 a public interest involved there so... [cross-talk]

24 ALAN BURCHELL: Yeah.

25

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2 COUNCIL MEMBER LEVIN: Alright, thank
3 you... [cross-talk]

4 ALAN BURCHELL: Whereby it be solar,
5 green roof or, or what else, greenhouses... [cross-
6 talk]

7 COUNCIL MEMBER LEVIN: Or both.

8 ALAN BURCHELL: Yeah, or both.

9 COUNCIL MEMBER LEVIN: Alright, thanks
10 like, like we see right there. Thank you.

11 TIM BARRETT: One, one more point on that
12 is nobody has mentioned the Javits Center which has
13 a, a green roof on it that is extremely light weight,
14 it was a retrofit, it's prosperous and the management
15 of, of Javits raves about it.

16 COUNCIL MEMBER LEVIN: Right... [cross-
17 talk]

18 TIM BARRETT: So, you know the weight
19 issue is, is not everything that people are cracking
20 it up to be.

21 COUNCIL MEMBER LEVIN: Right, right.
22 Thank you very much, thank you.

23 CHAIRPERSON CONSTANTINIDES: I agree with
24 your point, beautiful roof. We have Kalman Yeger from
25 Brooklyn who wants to ask a few questions.

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2 COUNCIL MEMBER YEGER: Good morning. If
3 you have a ten-story building surrounded on all sides
4 by 20 story buildings and the sun never hits the top
5 of the roof is there any use to putting a green roof
6 there or a solar panel?

7 TIM BARRETT: I would say absolutely yes.

8 COUNCIL MEMBER YEGER: Okay... [cross-talk]

9 TIM BARRETT: There are low light
10 requirements for certain vegetation that can prosper
11 in that type of environment and you're still
12 absorbing the precipitation that falls on the roof
13 which is the number one driving force behind the
14 green roof development.

15 ZACK STEINBERG: I'm, I'm by no means a
16 technical expert on the viability... [cross-talk]

17 COUNCIL MEMBER YEGER: Nor I... [cross-
18 talk]

19 ZACK STEINBERG: ...of green roofs as, as
20 these folks are but I think the question we would
21 raise is, does it make sense to mandate it everywhere
22 on all new buildings coming up in the city or
23 potentially for all retrofits or change in occupancy
24 or change in use that would trigger such an
25 requirement in the building code, there are plenty of

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2 places where it's just not going to make sense
3 particularly if you're asking building owners to make
4 economic investments in their property such as
5 trading off between do I have to do a new boiler or
6 do I now have to set aside more money because I'm
7 going to have to figure out how to deal with my
8 reroofing and my cost just went up because now I got
9 to put a green roof or solar panels on it so I think
10 it's not quite as straight forward a calculation for
11 a lot of building owners in situations like you're
12 describing.

13 ALAN BURCHELL: When we build a green
14 roof, we, we strive to recreate the natural
15 environment up on the rooftop and if you think of a
16 forest there's plenty of shady forests with plant
17 life growing down underneath the tree canopy. To this
18 gentleman's point here there are plenty of plant
19 species that are shade tolerant and actually require
20 the shade and so it is entirely possible to build a
21 green roof in a mostly shady area. The... there's been
22 advancements in the world of solar, rooftop solar and
23 in terms of microinverters that allow for portions of
24 shade to fall on the solar ray and not impact the
25 other panels but if the entire... if no sunlight ever

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2 hits that rooftop, no there's no point in my opinion
3 of putting a solar PV electrical ray up there but a
4 rooftop... a green rooftop, yes there still is a point.

5 COUNCIL MEMBER YEGER: Okay and if
6 somebody puts a green rooftop up it obviously
7 involves caretaking and... [cross-talk]

8 ALAN BURCHELL: Uh-huh... [cross-talk]

9 COUNCIL MEMBER YEGER: ...lawn mowing and
10 things of that nature, somebody... whatever... [cross-
11 talk]

12 ALAN BURCHELL: Fair question... [cross-
13 talk]

14 COUNCIL MEMBER YEGER: ...it is that's got...
15 [cross-talk]

16 ALAN BURCHELL: ...continue, sir go ahead,
17 yeah... [cross-talk]

18 COUNCIL MEMBER YEGER: ...going up there,
19 if you have a relatively small ten story building as
20 I described surrounded on all sides by 20 story
21 buildings and the sun never hits the top of the roof
22 and you have a couple hundred square feet of some
23 kind of grass that doesn't need a lot of light as you
24 described sir, does it make sense to mandate that
25 every single building in the city of New York have a

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2 green roof or a solar panel? It's one or the other,
3 there no option in 276, it's, its certain new
4 buildings be partially covered in plants or solar
5 panels, it's kind of the way this statute says... it
6 doesn't say anything else, does it make sense, is
7 there... is there another way that resources as the
8 gentleman described can be done by a real property
9 owner that can contribute beneficially to the
10 environment without mandating that he go up there and
11 plant a bunch of plants that are going to need a lot
12 of upkeep, not really be able to do anything, not...
13 you know not have the sun coming at it, definitely no
14 solar panels because there's not going to be any sun
15 hitting the building, is there... is it make... does it
16 make sense to have one size fits all rule for those
17 kinds of buildings?

18 ALAN BURCHELL: So, here's the thing if,
19 if you were headed to a desert island and you could
20 only bring one tool with you and maybe you were dead
21 set thinking at first oh a Phillips screwdriver head
22 or, or would you bring a saw or would you bring... you
23 know what else is on a swiss army knife, my tool of
24 choice would be a swiss army knife so if you go
25 through all of the benefits that a... that a green roof

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2 offers is there a better measure that a building
3 owner can undertake to combat one of these issues you
4 see here on the left hand side if you go on a line by
5 line basis, yeah, if you're trying to reduce energy
6 consumption and that's your only goal then a lighting
7 retrofit would probably be a better bang for your
8 buck with a higher, higher ROI, is there a more
9 efficient way to grow agriculture up on your roof or,
10 or in the building, maybe vertical farming, yeah, or
11 insulate your building or reduce the solar gain, the,
12 the Cool Roofs program is very effective by that one
13 measure but no, no technology, no implementation or
14 upgrade to a building is going to get you at as many
15 a wide array of benefits as a green roof does. Are we
16 going to potentially come across a building that okay
17 maybe it doesn't make sense for a green roof, sure,
18 I'm, I'm not sure right now what that would be maybe
19 an extremely sloped roof with, you know like a seven
20 degree... 70 degree pitch or something just so people
21 understand you can build green roofs on sloped
22 rooftops, we, we do it all the time. So, it, it
23 depends on what your goal is, but I think it's
24 definitely worth exploring and looking at the
25 viability across every rooftop in New York City.

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2 COUNCIL MEMBER YEGER: Okay, thank you
3 very much Mr. Chairman.

4 CHAIRPERSON CONSTANTINIDES: Sure.

5 COUNCIL MEMBER ESPINAL: Yeah and I'll...
6 and I will also add that, that these bills do not
7 only single out green roofs, they, they include solar
8 panels and include wind turbines. Sir the, the bill
9 itself is a swiss army knife for developers to decide
10 what works best for their roofs as well, just to keep
11 that in mind.

12 COUNCIL MEMBER YEGER: Not 276 Mr. Chair,
13 276 is... [cross-talk]

14 COUNCIL MEMBER ESPINAL: Sorry... [cross-
15 talk]

16 COUNCIL MEMBER YEGER: ...just plants and
17 solar panels and that's, that's the point that I'm
18 trying to make is that a one size fits all approach
19 just because it's good for the environment does not
20 necessarily make a lot of sense if an enormous amount
21 of resources, money has to be put into a building
22 that doesn't turn back that actual result that we're
23 trying to do which is to improve the environment but
24 simply a, a gigantic gauze pad for a tiny paper cut,
25 it may not make sense.

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2 COUNCIL MEMBER ESPINAL: Well I'm, I'm
3 sure that we can... [cross-talk]

4 MELISSA DANIELS: Can I add a point to
5 that as well... [cross-talk]

6 CHAIRPERSON CONSTANTINIDES: ...look at
7 those bills to, to expand them to mirror more of the
8 bill I have which is... which, which is that swiss army
9 knife of, of choices... [cross-talk]

10 MELISSA DANIELS: Can I just add one
11 other point, the other thing is that you have to look
12 at the city as a whole, as a, a system and an
13 environment and without enough coverage on the
14 rooftops you're not going to get the environmental
15 impacts that you need and that could actually lead to
16 more costly implications in the future. One of the
17 driving forces for Chicago to implement mandated
18 green roofs was because they had to replace their
19 sewer system which couldn't take the storm water
20 runoff in the city which of put them billions of
21 dollars in infrastructure improvement that they
22 avoided by putting green roofs on a certain
23 percentage of buildings in the... in the city so
24 perhaps you might, might want to set goals of

25

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2 percentage if that makes more sense than if you feel
3 like a, a particular mandate wouldn't work.

4 ALAN BURCHELL: And I would also like to
5 point out that the benefits the green roof offer they
6 transcend not only environmental benefits but they..
7 there's economic and, and social benefits as well and
8 these benefits as well also serve the private, the
9 building owner and the occupants as well as the, the
10 general public at large.

11 TIM BARRETT: One quick word about
12 maintenance, generally speaking we do not use grass
13 on vegetative roofs, the most common plant of species
14 are sedum and the maintenance on those after the
15 first year of establishment is typically twice a
16 year. So, we're not up there mowing the lawn once a
17 week and, and..

18 ALAN BURCHELL: We design them to be like
19 highly tolerant to drought and, and low maintenance
20 as possible.

21 CHAIRPERSON CONSTANTINIDES: Thank you
22 Council Member Yeger. Now I want to acknowledge that
23 we have both Council Member Menchaca from Brooklyn
24 and Council Member Ulrich from Queens here and
25 Council Member Ulrich has some questions.

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2 COUNCIL MEMBER ULRICH: Thank you Mr.

3 Chair, I apologize for being late today, but I did
4 get a chance to review the testimony. I'm a big fan

5 of green roofs and solar energy systems, I think

6 they're great for the environment. I have a few

7 questions and concerns that I hope we can address

8 here with respect to 276. So, I, I know more about...

9 admittedly I know more about solar energy systems

10 than I do green roofs in terms of the financing

11 that's available and also some of the tax credits

12 that are afforded to, you know private land owners

13 and developers in installing and paying for these

14 systems. I think there's a big gap in what we're

15 trying to achieve and how we actually achieve it. For

16 instance, the incentives and tax benefits that are

17 available to the owner of a multifamily building for

18 instance or a, a large commercial building are not

19 available to houses of worship or educational

20 institutions, schools, nonprofits, libraries because

21 they don't pay property taxes for instance, they

22 can't write off the depreciation, they may not

23 qualify for the federal tax credit for instance and I

24 think we're, we're missing a large swath of city

25 owned or city subsidized buildings quite frankly

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2 because it doesn't make economic sense for them to do
3 it even when they want to and we've gone to public
4 libraries and catholic schools and other places that
5 have large roofs and say hey we'd loved to have it,
6 we're all for the environment, we want to save money
7 on our energy bills but it just doesn't make sense
8 for us to package the one size fits all approach
9 that's available to a commercial building owner or a
10 large residential complex, it is not necessarily
11 available to that institution or to that facility and
12 I think that's a problem and I'd love to see if the
13 advocates have any suggestions for how we can
14 mitigate that or incentivize that or, or encourage
15 maybe the state or some of our federal partners to
16 look at that because we're missing, you know large
17 pieces of property that are just going to fall right
18 through the cracks in the current system, I mean am,
19 am I correct in that assertion, can people sort of
20 verify that for me unless, unless there... something
21 has changed... [cross-talk]

22 MELISSA DANIELS: You can... [cross-talk]

23 COUNCIL MEMBER ULRICH: ...in the past
24 couple... [cross-talk]

25

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2 MELISSA DANIELS: Yeah, you can look to
3 the example of the GSA in Washington DC because
4 that's a huge driver for the green roof
5 implementation that's exploded in that city in the
6 past few years so they have... they have mandates and
7 standards through the GSA so they have a, a toolbox
8 and a performance standard they have to reach and
9 like Alan said they choose the green roof as their,
10 their tool of, of choice that they prefer to, to
11 reach their standards and their goals so look for
12 that model, that's a good one for what you're talking
13 about.

14 COUNCIL MEMBER ULRICH: I think that the
15 future of making this program successful, this
16 initiative successful in New York City is a public,
17 private partnership and it requires the carrot and
18 the stick. Having a simple mandate that's unfunded I
19 think by the government is a little disingenuous but
20 to be honest with you I believe that if the
21 government wants to mandate that building owners by a
22 certain year or by a certain date install a, a solar
23 energy system or a green roof or have a percentage of
24 their roof converted or retrofitted that we ought to
25 be paying for it and we don't have to pay for it

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2 directly, in the financing maybe we allow people to
3 take tax credits off their property tax that they're
4 going to pay to the city anyway over a period of
5 years so that the city's not seeing a hit but we have
6 to provide some financial incentive to the private
7 building owners to do this and to see the benefit of
8 doing this for the environment and also the economic
9 benefit. I don't think we do enough of that now, I
10 think we're, we're just trying to roll out these
11 mandates and require that buildings... new buildings
12 and some of the older buildings meet certain
13 standards but we're, we're not willing to put our
14 money where our mouth is, the city really needs to do
15 that and maybe it is a public, private partnership,
16 it's a fund that developers pay into when they get to
17 build higher or bigger and then the city matches it,
18 I don't know but we have to think of something
19 creative that encourages the vast majority of
20 privately owned buildings in this city to be more
21 sustainable and environmentally friendly and we're
22 not doing that and I think that these bills have very
23 good intentions and I would love to see all of these
24 things achieved and I love everything that I see up
25 there but I just don't think it's realistic because

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2 it's not going to make economic sense for those
3 people to do it right now so we have to do more is
4 what I'm saying, I'm not attacking you or, or what,
5 what, what you're trying to do I'm saying the city of
6 New York and the government as a whole we are not
7 ponying up what we need to pony up and we are not
8 encouraging or lighting that fire for the privately
9 owned buildings in this city that produce upwards of
10 80 percent of the greenhouse gas emissions in the
11 city, right, or 60 some odd percent, that's, that's
12 the main contributor to... you know to... you know carbon
13 in the atmosphere and when... you know he has a...
14 Raphael has a great bill with the... with the busses
15 and everything and he's, he's like leading the charge
16 on this with the Chair, they're doing everything they
17 can but that's a drop in the bucket, we know where
18 it's coming from it's the buildings but the city
19 doesn't own most of the building they're privately
20 owned, well then how do we get the privately owned
21 buildings to, to put green roofs and solar panel...
22 money, thank you, somebody said money, absolutely,
23 money, it cost money and lots of money, these systems
24 are very, very expensive, we know that and for good
25 reason and they last a long time but we have to pay

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2 for it, we're not... the government is not paying for
3 it, we want them to pay for it and they're not going
4 to pay for it, we know they're not going to do it and
5 if they're not going to do it we're not going to see
6 the, the benefit, that's my...

7 EMILY NOBEL MAXWELL: So, thank you for
8 the impassioned declaration, I wanted to just submit
9 to the committee that there is a wonderful article
10 written by Danielle Spiegel-Feld who is present today
11 that does take a look at exactly what you're, you're
12 suggesting which is the intentions are good but what
13 are the real options that we have and it will
14 require... in order to transform the entirety of the
15 building typology that we have it will require
16 different tools, carrots and sticks and incentives
17 and rules, absolutely we fully support that so I
18 encourage the committee to take a look at that
19 article or to talk directly with Danielle also, you
20 know the policy committee of the green roof
21 researchers alliance would be more than happy to
22 reach out. I also... within that article I think it
23 does discuss but I'll, I'll make mention, you know
24 when I think about hospitals, churches, for example I
25 think about... [cross-talk]

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2 COUNCIL MEMBER ULRICH: Schools... [cross-
3 talk]

4 EMILY NOBEL MAXWELL: ...the DEP... well I'm
5 actually going to hold these in different... because
6 one is held by the city and one is held by the
7 private... [cross-talk]

8 COUNCIL MEMBER ULRICH: Right, yeah...
9 [cross-talk]

10 EMILY NOBEL MAXWELL: ...I'm going to think
11 about the green infrastructure grant program by DEP,
12 I do see opportunities to make improvements to that
13 program which is very well meaning but could benefit
14 from some tweaks that might make private property
15 owners more inclined to take advantage of it and then
16 the thing I would also make mention of is our schools
17 are some of our largest buildings, we also know
18 they're one of our biggest energy consumers,
19 appropriately but that means they're one of the
20 largest greenhouse gas consumers. If we're able to
21 focus on our schools and the school construction
22 authority to overhaul those rooftops we can have the
23 dual benefits of everything that's on this list and
24 also better educational spaces and potentially
25 outdoor spaces for our children and so I think that

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2 when we think about city owned buildings I would
3 encourage us to really take a look at our schools.

4 COUNCIL MEMBER ULRICH: Absolutely, yes.

5 ZACK STEINBERG: If, if I may without...
6 with, with respect to, to the, the way this... these
7 bills interact with other legislation under
8 consideration by this committee and the council I
9 think it's important that people retain flexibility
10 from the building owner's side and the tenants side
11 to be able to make reductions in building emissions
12 so the means that make the most sense for the given
13 building so we would encourage you to keep this
14 legislation in mind as you think about the other
15 range of packages that you're considering to... for the
16 further... energy and greenhouse gas reductions on
17 property owners not that they're not willing and not
18 already making many of those reforms but some
19 flexibility is an important way of doing that and
20 they may want to use their roof for some reason or
21 another to do something else and it may not make
22 sense to just say solar panel or green roof because
23 that money could be better spent perhaps doing
24 something else; lighting, windows, whatever else,
25 insulation, whatever else it might be to make further

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2 improvements to the building so we would encourage
3 that... maintaining that kind of flexibility as you
4 think about how this bill interacts with the other
5 range of legislation that council is considering.

6 COUNCIL MEMBER ULRICH: I, I would love
7 to know if there are any other public, private
8 partnerships in other cities that have worked well
9 and how we can implement those here in New York City
10 because I don't think that it's fair that they
11 shoulder the entire burden of financing these
12 retrofits or these energy upgrades and I don't think
13 it's fair that the government pays for it entirely so
14 it has to be a partnership but in New York City I
15 just don't see that partnership working well because
16 of the fact that the vast majority of buildings don't
17 have green roofs and solar panel systems yet... solar,
18 solar energy systems.

19 TIM BARRETT: I'd like to share one..
20 anecdotally one, one instance, I see that Dr. Paul
21 Mequitz [phonetic] is, is here, he's the President of
22 GIA Institute, a nonprofit and working with GIA
23 Institute and the Catholic school up in the Bronx,
24 St. Simon Stock we were able to put a green
25

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2 vegetative roof on the school at St. Simon Stock and
3 on a part of the church, we... [cross-talk]

4 [off mic dialogue]

5 CHAIRPERSON CONSTANTINIDES: I, I, I
6 think we're going to... if... [cross-talk]

7 COUNCIL MEMBER ULRICH: Is he on the
8 panel... [cross-talk]

9 CHAIRPERSON CONSTANTINIDES: Are, are you
10 scheduled to come up at some point? Oh, great.
11 Alright, so we'll, we'll... I have to stick with the
12 five of you that are up there... [cross-talk]

13 TIM BARRETT: Okay, so, so we did do it
14 with some help from the Bronx Economic Development
15 Authority.

16 COUNCIL MEMBER ULRICH: Yeah, but like I
17 said the Diocese for... I'll just use it as an example,
18 they don't pay property tax, they... they're exempt
19 from a lot of tax requirements that privately owned
20 buildings or commercial buildings currently pay so
21 for them they don't have... you know we can't take that
22 cookie cutter that works for the supermarket building
23 for instance and just swap it on top of St. Francis
24 Prep High School in Queens which is huge, you know
25 so... but I think that we have to come up with, with

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2 very creative packages that address some of these
3 other buildings that have large roofs and also again
4 the government has to set up some sort of fund or
5 some mechanism to allow people to deduct over a
6 certain amount of years from their property taxes, we
7 have to give some financial relief and more
8 incentives to privately owned buildings so they can
9 make retrofits and build new buildings that are more
10 energy efficient and sustainable and have green roofs
11 and or solar systems.

12 ALAN BURCHELL: So, it's important to
13 understand again that many of those benefits of green
14 roofs that have been mentioned today have clear
15 economic benefits to building owners and, and make
16 green roofs have an attractive return on investment
17 but the challenge is overcoming that initial
18 investment... [cross-talk]

19 COUNCIL MEMBER ULRICH: And the upfront
20 cost... [cross-talk]

21 ALAN BURCHELL: The upfront cost... [cross-
22 talk]

23 COUNCIL MEMBER ULRICH: The upfront cost...
24 [cross-talk]

25

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2 ALAN BURCHELL: Sure, so this graphite
3 show is okay it is an, an integrated solar green roof
4 so you do have a lot of the benefits of the solar in
5 there but the, the curve basically looks the same for
6 a traditional green roof and red there is the initial
7 capital investment up front. I'd say two things; one,
8 we need to educate people about these economic
9 benefits so that they understand that a green roof,
10 constructing a green roof is not just some charitable
11 donation that you're making to the birds and bees and
12 the butterfly's but you're actually... it's a selfish
13 investment that you will make a return on... [cross-
14 talk]

15 COUNCIL MEMBER ULRICH: Absolutely..
16 [cross-talk]

17 ALAN BURCHELL: ...that investment. PACE
18 financing, are you... are you familiar with Pace..
19 [cross-talk]

20 COUNCIL MEMBER ULRICH: I'm not, not, not
21 at all... [cross-talk]

22 ALAN BURCHELL: ...financing? So, it's a
23 property assessed clean energy and so this has been
24 passed in many states, usually it gets passed
25 statewide... [cross-talk]

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2 COUNCIL MEMBER ULRICH: What is PACE
3 again, I'm sorry... [cross-talk]

4 CHAIRPERSON CONSTANTINIDES: We actually
5 have... we have a bill on... [cross-talk]

6 COUNCIL MEMBER ULRICH: Okay... [cross-
7 talk]

8 CHAIRPERSON CONSTANTINIDES: ...on PACE as
9 well that's... [cross-talk]

10 COUNCIL MEMBER ULRICH: Well we don't
11 have that in New York... [cross-talk]

12 CHAIRPERSON CONSTANTINIDES: Not, not...
13 [cross-talk]

14 ALAN BURCHELL: Not... it's in every
15 country in New York State except New York City for
16 some reason but it's inevitable I believe but base...
17 long story short... [cross-talk]

18 COUNCIL MEMBER ULRICH: It's crazy...
19 [cross-talk]

20 ALAN BURCHELL: No, I know. Long story
21 short, it allows investments in clean energy
22 retrofits to a building to be fused not only... two
23 things; one, fused to the property itself not to the
24 building owner in that it's paid as a line item on
25 the property taxes... [cross-talk]

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2 COUNCIL MEMBER ULRICH: Absolutely...

3 [cross-talk]

4 ALAN BURCHELL: ...and number two, the
5 payments are spread out... [cross-talk]

6 COUNCIL MEMBER ULRICH: Right... [cross-
7 talk]

8 ALAN BURCHELL: ...over a 25 to 35 yearlong
9 scale and they're actually designed so that what you
10 pay back each month let's say or each year its
11 designed to be less than what your net benefits from
12 that installation are so you remain cash positive the
13 entire time.

14 COUNCIL MEMBER ULRICH: That's great, I
15 think we need that in New York City and I'm, I'm...
16 [cross-talk]

17 ALAN BURCHELL: Oh desperately, that will
18 unlock... that will unlock a wave of... [cross-talk]

19 COUNCIL MEMBER ULRICH: ...I'm waiting to
20 hear the Chair... [cross-talk]

21 ALAN BURCHELL: ...new roofs in New York
22 City.

23 COUNCIL MEMBER ULRICH: The, the other...
24 the other... the other suggestion that I have is as the
25 city planners and lawmakers, policy makers we have so

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2 many tools in our disposal to incentivize new
3 development to be greener and we don't provide any
4 funding for developers that come in and say hey I
5 want this to be a platinum lead, you know certified
6 building... [cross-talk]

7 ALAN BURCHELL: Right... [cross-talk]

8 COUNCIL MEMBER ULRICH: We're not giving
9 any benefit right now or very little benefit, the
10 city specifically. I think we absolutely need to look
11 at that, also we need to take a look at the zoning
12 laws to say, you know maybe we give people a bump on
13 the height ten feet if we do it now for
14 affordability, right, we, we allow developers that
15 want to build and set aside a certain amount of units
16 or percentage for affordable units, maybe we give a
17 bump on the height for people that, that make it a
18 lead certified building, I don't know but we have to
19 provide some real financial, practical incentive for
20 these private developers and privately owned
21 buildings to retrofit or build greener and I don't
22 think that we're doing enough. And a simple mandate I
23 think is unfair to them because it lets the city off
24 the hook, we're not putting our, our portion of the
25 funds in and we have a legal and a moral obligation I

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2 think to lead the charge on this with our buildings
3 but also to help the privately owned buildings in the
4 city, you know become greener and install these
5 systems on the roof and we're not doing enough.

6 ALAN BURCHELL: I, I think... again I think
7 you need to earmark some funds for the structural
8 analysis of these rooftops because that's a big
9 initial hurdle, that's the first thing every time I
10 hop on a call with someone, I'm interested in the DEP
11 grant blah, blah, tell me all about it, I'm like well
12 I can tell you all about it but the first thing we
13 need to do is get you through a structural analysis,
14 well how much does that cost, well that can be
15 anywhere from three to four to ten thousand dollars
16 depending on the size... [cross-talk]

17 COUNCIL MEMBER ULRICH: That's crazy, the
18 city... [cross-talk]

19 ALAN BURCHELL: ...of the building... [cross-
20 talk]

21 COUNCIL MEMBER ULRICH: ...should be
22 providing it for free if people want it.

23 ALAN BURCHELL: If, if I owned... if I
24 owned all the buildings in the city, I would want to
25 know what I... what I was working with because I would

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2 want to know where I can develop the rooftops for
3 whatever system and, and where I can't.

4 COUNCIL MEMBER ULRICH: There is so much
5 we can do and we're not doing, we as the city..
6 [cross-talk]

7 ALAN BURCHELL: You can't manage what you
8 don't measure.

9 COUNCIL MEMBER ULRICH: That's right so
10 I... that's my sermon for the day but I want to thank
11 the, the Chair, as always he's a, a champion for our
12 environment and he's passing some really important
13 pieces of legislation and he's doing a great job, he
14 follows in the footsteps of Jim Gennaro a good friend
15 and I know he's a mentor of yours, I had the pleasure
16 of serving on this committee when he was the Chair
17 almost ten years ago and I think this is important
18 not as a... as a public servant but as a parent, you
19 know of a six year old daughter that, that she be
20 able to breath air that's cleaner and drink clean...
21 drink clean water and live in a... in a better
22 environment than even the environment that I... that I
23 grew up in or that I'm living in, we have that
24 obligation to give our kids a better... a better city,
25 a greener city but we have... we have a lot of work to

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2 do, we have a lot of work to do, the city of New York
3 I think is not doing enough. Thank you, Mr. Chair.

4 CHAIRPERSON CONSTANTINIDES: Thank you
5 Council Member Ulrich, Council Member Menchaca has
6 some questions.

7 COUNCIL MEMBER MENCHACA: Thank you, well
8 and first I want to start with some comments really
9 kind of maybe in direct to the sermon that was just
10 given by my colleague from Queens and, and I want to
11 offer a different perspective and one to say thank
12 you for being here, I think it's important that we're
13 having this conversation and the leadership of this
14 Chair and this Committee is one that we want to get
15 some stuff done and I think it was mentioned before
16 we have to figure out how it all works together but
17 one thing I will not let go is this concept that we
18 have to pay for that from the city itself, I think
19 that there have to be incentives as well but there's
20 an insane amount of profit being made right now by
21 our developers in our communities and the fact that
22 they don't want to leave and let go of any of that
23 profit without some kind of matching from the city I
24 think is not only disingenuous but I think it's
25 dangerous for us to do. The leadership is in us as

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2 policy makers and I think we have to go and step
3 forward and say here's where we need you to go even
4 if it means that its less profit for you because
5 you're making billions of dollars and we have to then
6 fork over money is just the wrong way to think about
7 this. This is something that is novel as I understand
8 but it really isn't and I think that the, the, the
9 corporations, the REBNEY's of the world understand
10 this, they're not dumb, they understand that there's
11 a cash profit but they don't want to do that initial
12 investment and I think that's wrong and I think this
13 is where we need to put policy forward to say you got
14 to do that, if you want... if you want to... if you want
15 to build in the city of New York you're going to have
16 to make that investment real and so I just... I'm, I'm
17 going to offer my own sermon and say that this is...
18 we're in a precipice of change right now in the city
19 and we have to offer that leadership and I hope it
20 comes and from our colleague, a good friend of mine,
21 we, we go... we, we do a lot of things together, I
22 think what we need to do is, is, is commit to that
23 and I hope that, that he and his republican
24 colleagues can say yes to a B and T conversation, the
25 budget negotiating team and say, great if this is a

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2 priority let's make it happen for those who really
3 need it and for those who don't really need it and
4 they can deep into their savings slash slush funds of
5 profits that they make that happen period. And I
6 think... I don't have any questions, thank you.

7 ALAN BURCHELL: I... so, I'd like to just
8 pass one small comment on that, I agree with
9 everything you say but just to put things in
10 perspective and I hope I'm not butchering the
11 statistic but I once read that 90 percent of the
12 buildings that will exist in New York City in the
13 year 2100 already exists today so it's important to
14 understand that will new development, yes, absolutely
15 going forward we should be greening the rooftops,
16 the, the bigger fish to fry are the retrofits of
17 existing buildings.

18 COUNCIL MEMBER MENCHACA: No doubt and I
19 was capturing all of that so I'm glad you clarified
20 that, this is... the, the city is constantly in change
21 and so there's, there's constant investment that's
22 being made with a return that needs to be at a
23 certain point, point or it doesn't happen, that's not
24 New York City, that's not my New York City, that's

25

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2 not our New York City. Thank you for that
3 clarification.

4 EMILY NOBEL MAXWELL: Also, can I add on
5 that... I know that real estate developers have
6 concerns about this but imagine what the value of
7 real estate will be in New York City when it becomes
8 in... uninhabitable because it's too hot, it's not a
9 pleasant place to be, it's overrun with pollution and
10 asthma attacks so... [cross-talk]

11 COUNCIL MEMBER MENCHACA: We're already
12 there in so many cases. Again, this is why I... it
13 just... it's hard for me to think that this information
14 is not with them right now and, and, and the kind of
15 notion that we have to meet them even halfway with
16 city funding. I just got back... the reason I was
17 delayed I was at immigration court with Ravi Ragbir
18 who just got released by the way, I know a lot of you
19 are following him and he's... he got released with his
20 wife, he's going to go back home for another six
21 months before he has another check in, this is not
22 where we need to be. We need to demand more, thank
23 you.

24 CHAIRPERSON CONSTANTINIDES: Alright, I...
25 that's it guys...

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2 COUNCIL MEMBER YEGER: Point of personal
3 privilege Mr. Chair... [cross-talk]

4 CHAIRPERSON CONSTANTINIDES: Alright, so...
5 [cross-talk]

6 COUNCIL MEMBER YEGER: ...point, point of
7 personal privilege just very quickly... [cross-talk]

8 CHAIRPERSON CONSTANTINIDES: Now guys I,
9 I just... [cross-talk]

10 COUNCIL MEMBER YEGER: ...it's not
11 socialism, the money is not in the wrong hands...
12 [cross-talk]

13 CHAIRPERSON CONSTANTINIDES: Alright...
14 [cross-talk]

15 COUNCIL MEMBER YEGER: ...okay, this is
16 crazy, we can't force private owned... [cross-talk]

17 CHAIRPERSON CONSTANTINIDES: Alright,
18 guys, guys... [cross-talk]

19 COUNCIL MEMBER YEGER: ...building owners
20 to do this... [cross-talk]

21 CHAIRPERSON CONSTANTINIDES: ...guys...
22 alright, please, please, please... [cross-talk]

23 COUNCIL MEMBER YEGER: ...it's not going to
24 happen.

25

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2 CHAIRPERSON CONSTANTINIDES: ...I, I have
3 the mic... [cross-talk]

4 COUNCIL MEMBER YEGER: Thirty seconds...
5 [cross-talk]

6 CHAIRPERSON CONSTANTINIDES: ...alright, I
7 will give 30 seconds but... [cross-talk]

8 COUNCIL MEMBER YEGER: Thank you... [cross-
9 talk]

10 CHAIRPERSON CONSTANTINIDES: ...I'm... I will
11 say that we, we have to sort of move on from the
12 sermons this afternoon... [cross-talk]

13 COUNCIL MEMBER YEGER: Thirty seconds,
14 this won't be a sermon. I just want to point out that
15 none of these bills have an income limit or an income
16 threshold or anything like that, it doesn't talk
17 about whether a building is making untoward profits
18 whatever that it is that we decided was untoward or
19 if a building is just barely scraping by, the bill
20 says do this and the point is that if we're going to
21 incentivize as my colleague from Queens said, if
22 we're going to ask building owners to do something we
23 do... we should incentivize it because it is a benefit
24 for the entire city but if the building is just
25 making it and there are plenty of buildings in this

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2 city that are just making it, they're just managing
3 to, to get the garbage out and pay their bills and
4 barely surviving we shouldn't be throwing a huge
5 burden on them, a financial burden without some
6 incentivization from the city and of course the large
7 landlords and those who can afford it they should do
8 a little more but none of these bills make that
9 differentiation and I would urge the sponsors to do
10 that to write pieces into this legislation to make
11 the differentiation between those who can afford it
12 and those who may need that assistance from the city
13 and that's my sermon and I appreciate your indulgence
14 Mr. Chair.

15 CHAIRPERSON CONSTANTINIDES: Thank you,
16 thank you Council Member Yeger and with that I'm, I'm
17 going to thank this, this panel for its time and I'm
18 going to call the next panel up. And, and just to
19 remind everyone because I know it's been a long time
20 since we've called up a panel, but we are sticking to
21 a three-minute clock on, on testimony. So, Marielle
22 Anzelone from the New York Wildflower Week; Gwen
23 Schantz from Brooklyn Grange; Bhavya Reddy from the
24 Hope Program, Sustainable South Bronx; Michelle

25

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2 Luebke from the Bronx River Alliance and Jay Welch
3 from the SWIM... Julie Welch from SWIM Coalition.

4 [off mic dialogue]

5 CHAIRPERSON CONSTANTINIDES: Alright, so
6 I guess we started on this side last time so let's
7 start on this time... this side going this, this time
8 around. Alright, hold up I guess they're, they're
9 giving out testimony both of you guys alright...

10 [off mic dialogue]

11 CHAIRPERSON CONSTANTINIDES: Are we ready
12 to start the clock? Alright, fantastic, alright, go
13 ahead.

14 BHAVYA REDDY: Alright... [cross-talk]

15 CHAIRPERSON CONSTANTINIDES: Sorry for
16 the wait.

17 BHAVYA REDDY: No worries. Good morning
18 Chairman Constantinides and members of the committee.
19 I am Bhavya Reddy and I help deliver job training for
20 New Yorkers seeking careers in the green construction
21 field. Thank you for the opportunity to testify on
22 the legislative package to make New York City roofs
23 more sustainable. Sustainable South Bronx, a division
24 of the HOPE program, is a workforce development
25 nonprofit that equips New Yorkers facing deep

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2 barriers to employment with the tools to achieve
3 economic self-sufficiency. We train community members
4 for careers in the sustainable construction sectors,
5 with a special focus on making rooftops more
6 sustainable through green infrastructure, solar
7 panels and reflective coatings. We support building
8 an equitable New York City through climate change
9 mitigation strategies that are decentralized and
10 community based, ensuring that community members who
11 have traditionally been excluded from the positive
12 economic impact of sustainable initiatives can also
13 benefit. According to a report by MIT CoLab, NYC's
14 existing annual investment in green infrastructure on
15 public and private property has been estimated to
16 generate between 262 and 608 job years of entry level
17 construction employment, jobs that create the
18 opportunity to maximize triple bottom line returns.
19 Between 60 percent and 80 percent of NYC's new green
20 infrastructure positions will be entry level jobs,
21 which could support job creation and long-term
22 employment in the communities where green
23 infrastructure is being built. These are quality jobs
24 with average annual salaries ranging between 33,040
25 dollars and 63,960 dollars. In addition to creating

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2 jobs, green roofs mitigate the urban heat island
3 effect, which disproportionately effects the low-
4 income New Yorkers we serve. Green roofs and solar
5 installation generate employment opportunities for
6 community members and local wealth building for small
7 businesses and social enterprises. Unfortunately,
8 market demand for these services does not reflect the
9 urgency of climate change, requiring regulatory
10 interventions like this legislation. However, long
11 after installation, successful implementation of
12 green roofs involves occasional inspections and, and
13 maintenance; in addition, not all green
14 infrastructure is created equal and roofs that
15 provide the greatest ecological and aesthetic
16 benefits may require more care. While maintenance is
17 sometimes considered to be a burden, for our
18 graduates and communities, the long-term employment
19 opportunities generated by green infrastructure work
20 can be life changing. In order to see the greatest
21 benefits, we'd be interested in seeing a focus not
22 just on installation but also support for building
23 owners for maintenance. Thank you for your support
24 through the Greener NYC initiative and for the
25 opportunity to testify.

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2 CHAIRPERSON CONSTANTINIDES: Thank you
3 very much and big fan of the HOPE Program and
4 Sustainable South Bronx so thank you.

5 BHAVYA REDDY: Thank you.

6 JULIE WELCH: Thank you. My name is Julie
7 Welch and I'm the Program Manager for Stormwater
8 Infrastructure Matters, SWIM Coalition. SWIM is a
9 diverse group of more than 70 community-based
10 organizations citywide, regional and national
11 organizations, water recreation users, institutions
12 of higher education, scientists, citizens and
13 business owners who advocate for the health of New
14 York City's waterways. Since our founding in 2007,
15 SWIM has advocated for green infrastructure solutions
16 in every borough to capture, filter and slow the
17 stormwater runoff that can overload New York City's
18 sewer system sometimes even when it rains as little
19 as a tenth of an inch. Green infrastructure or
20 vegetated systems that manage stormwater at the
21 source, before it reaches our burdened sewer system
22 is a cost effective and sustainable approach to water
23 pollution... reducing water pollution and mitigating
24 flooding. According to a recent report by NRDC and
25 NYU Sturns Center for Sustainable Business,

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2 stormwater runoff and sewer overflows are the largest
3 ongoing source of water pollution in New York City.

4 Nearly 20 billion gallons of untreated sewage and
5 polluted stormwater flow into our waterways every

6 year. Green infrastructure solutions employed
7 citywide can capture, filter, slow and ultimately

8 reduce the amount of stormwater that causes the
9 system overflows. Nearly 72 percent of New York

10 City's land mass is impervious. Under a current

11 agreement between the city and the state, New York

12 City has agreed to green 8,000 acres of our 150,000

13 impervious acres by 2030. Nearly 50 percent of these

14 8,000 acres is on private property, that's what we've

15 been discussing today is for these incentives that we

16 need to figure out ways to catalyze green

17 infrastructure on private property. To date, the city

18 has greened 467 acres mostly in the public right of

19 way with a robust program underway and we have some

20 time yet to meet the milestones, but we do need to

21 step it up on the private property side. As noted in

22 a recent Op Ed in Crains magazine which I think

23 someone referenced earlier, the city's rooftops

24 present a unique opportunity for installing

25 multipurpose vegetated green spaces. We thank all of

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2 the Council Members, the forward thinking that you've
3 put into the development of these... legislative
4 package and also for the resolution on the green
5 infrastructure tax rebate program and we commend you
6 for introducing these, they will move the city
7 forward. Before we can support the bills, we need a
8 few more details, we have a few questions that are in
9 this testimony which I won't necessarily go into
10 right now in order to save some time. We think that
11 there are cities, North American cities who's
12 framework you might look to for as a reference,
13 particularly Toronto and certainly DC to add to the
14 bills that you have existing now and we're a little
15 bit concerned about without these adequate incentives
16 for green roof installation that folks are going to
17 go for solar and wind as their options and we want to
18 make sure that we have a network in place with
19 financing and incentives and contractors being well
20 aware of the benefits of green infrastructure and
21 also that we have a system in place for incentivizing
22 the application of this very important aspect of
23 greening our city and preparing for climate change.
24 Currently green roof adopters in New York City have
25 two avenues for financial assistance, one is the

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2 grant program that DEP talked about and another green
3 infrastructure incentive program that DEP is about to
4 introduce which is for larger sized properties and
5 then we have the... [cross-talk]

6 CHAIRPERSON CONSTANTINIDES: If you... if
7 you can get ready to, to wrap up... [cross-talk]

8 JULIE WELCH: Uh-huh... [cross-talk]

9 CHAIRPERSON CONSTANTINIDES: ...I
10 appreciate it... [cross-talk]

11 JULIE WELCH: ...and then we have the green
12 roof tax abatement program, which we would like to
13 work with the City Council on to develop a green roof
14 tax abatement credit transfer program so that
15 nonprofits particularly those who serve income... low
16 income residents can take advantage of, of the plan
17 so we'd like to make some recommendations there and
18 then also while DEP is conducting their rate
19 restructuring study we think it would be good for us
20 to look closely at restructuring the waste water
21 charge in the... in the water rate bills to more
22 accurately account for a property's stormwater
23 impact... impact on the stormwater system. Thank you
24 again for the introduction of these legislative
25 bills, we have attached a table to our testimony

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2 which shows the other policies in other North
3 American cities that you might reference.

4 CHAIRPERSON CONSTANTINIDES: Thank you
5 very much. Next up.

6 MICHELLE LUEBKE: Good morning, my name
7 is Michelle Luebke and I'm the Director of
8 Environmental Stewardship for the Bronx River
9 Alliance and a member of the SWIM Coalition Steering
10 Committee. Thank you for having this hearing today
11 and also thank you for allowing us the opportunity to
12 speak on behalf of our community in the following
13 comments. The Bronx River Alliance serves as a
14 coordinated voice for the river and works in
15 harmonious partnership with more than 100
16 organizations and agencies to protect, restore and
17 improve the Bronx River as an ecological,
18 recreational, educational, and economic research...
19 resource for the communities through which the river
20 flows. Each year through our diverse programming we
21 engage over 1,500 paddlers, 2,000 students and
22 educators, and thousands of volunteers who come in
23 contact with the river, some for the first time. One
24 of our primary responsibilities is to improve water
25 quality of the Bronx River and our deeply concerned

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2 about the impact of fecal contamination from both MS4
3 systems and CSOs on the river's health and the impact
4 to human health for everyone who uses it as an
5 educational and recreational resource. Along with our
6 colleagues at the SWIM Coalition we have advocated
7 for green infrastructure solutions to capture, filter
8 and slow the stormwater runoff that can overload the
9 New York City's storm sewer system. We feel that
10 green infrastructure is a cost effective and
11 sustainable approach to reduce water pollution and
12 that water rate restructuring should be prioritized
13 as an incentive to help encourage property owners to
14 choose green infrastructure solutions. In the Bronx
15 River each year we have over 455 million gallons per
16 year of untreated sanitary sewer and storm sewer
17 going into our river making it unsafe for our
18 community members to fish, wade and paddle after
19 heavy storm events and never safe to swim which does
20 occur despite our best efforts. GI solutions employed
21 citywide can capture, filter and slow and ultimately
22 reduce the amount of stormwater runoff that causes
23 sewer system overflows. However, in the Bronx we're
24 faced with a high water table and high bedrock levels
25 so that DEP has not installed the planned green

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2 infrastructure as stated in the Bronx River long term
3 control plan, not only have the GI milestones for
4 stormwater management not been met citywide, the DEP
5 does not believe it will be able to fully accomplish
6 mitigating 14 percent of the one inch storm events by
7 right of way installations in the Bronx River
8 watershed. This means that without support for other
9 stormwater solutions CSOs will not be attenuated yet
10 our community rate payers will still have to
11 shoulder the burdens of the costs associated with the
12 grey infrastructure of the LTCP. So, thus we see
13 this... these... this package of bills as being a good
14 incentive... I'm going to go quickly. In addition to
15 all the salient environmental benefits enumerated
16 herein the Bronx River Alliance would like to
17 emphasize the need for GI in the Bronx as an economic
18 boon. The Alliance employs a full-time conservation
19 crew made up of hardworking local community members,
20 we hire additional seasonal workers and then do an
21 apprenticeship program where they learn skills
22 necessary to enter the green job workforce including
23 construction, plant palette selection and maintenance
24 of various GI techniques. However, the green job
25 opportunities we were anticipating following

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2 discussions with the DEP regarding the anticipated
3 new employees that would be needed in the GI rollout
4 did not materialize. We hope that with this renewed
5 support for green roofs that the awaiting green
6 workforce in the Bronx and beyond will gain
7 employment opportunities. We echo SWIM's concerns and
8 questions and have laid them out in our full
9 testimony.

10 CHAIRPERSON CONSTANTINIDES: I, I
11 appreciate both of your concerns and questions and we
12 will look to... at, at those considerations as we move
13 forward so thank you.

14 MICHELLE LUEBKE: Thank you.

15 CHAIRPERSON CONSTANTINIDES: Next.

16 GWEN SCHANTZ: Hi, good morning. My name
17 is Gwen Schantz and I am a Co-Founder and Managing
18 Partner at Brooklyn Grange. I'm speaking today as a
19 member of the New York City green roofing community
20 to issue strong support for the green roof bills and
21 resolution being discussed today. Brooklyn Grange is
22 a rooftop farming business and we've been using green
23 roofs as the basis for urban agriculture since we
24 opened in 2010. We currently operate three rooftop
25 farms located in Brooklyn and Queens where we grow

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2 nearly 100,000, 100,000 pounds of organic vegetables
3 each year on a total of about 3.5 acres of green
4 roof. In addition to growing food on green roofs, our
5 farms host thousands of annual visitors including
6 about 8,000 local public-school children each year.

7 Beyond our work as rooftop farm, farmers, Brooklyn

8 Grange's design build department also installs green

9 roofs throughout New York City. We're strong

10 proponents of green roofs and we're eager for the

11 leadership of New York City to take a more active

12 role in incentivizing these installations in the name

13 of improving our local environment and public health.

14 I can't imagine that there's a single person in this

15 room who's opposed to green roofs, we can all agree

16 that they're good for New York. However, and... I

17 anticipate that there will be opposition to the green

18 roof mandates in this proposed legislation because

19 they might be seen, seen as a burden on developers

20 and the real estate industry which is so important to

21 our city's economy. But my colleagues and I can speak

22 from experience, green roofs are good for business.

23 As a self-described progressive environmentalist, I

24 have an atypically positive relationship with real

25 estate... real estate developers. These businesses have

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2 a reputation for paving over mother nature but as a
3 green roofing contractor, I see real estate
4 developers as my partners in building a greener New
5 York City. If a new building displaces a green space,
6 we can restore it by covering the roof with soil and
7 plants. The same goes for 100-year-old factory
8 buildings, like the ones where my farms are located.
9 It doesn't matter what a building is used for, how
10 tall it is or where it is, green roofs can go
11 anywhere and bring environmental benefits to any
12 neighborhood. All it takes is an open roof, and a
13 commitment from the people who own and operate the
14 building. Three minutes. New York City was once known
15 for its airless tenements, for unbreathable brown air
16 and for toxic rivers. Building code improvements made
17 in the name of health and safety have changed all
18 that and the real estate community has thrived as a...
19 as a result of, not in spite of, these improvements.
20 I consider myself incredibly lucky, lucky to work
21 closely with nature and also live in New York City. I
22 don't have to choose between green space and business
23 and neither do any of us. Every building has a roof
24 and green roofs enable us to have both development
25 and green space. Mandatory green roof legislation and

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2 stronger green roof incentives will make New York's
3 air cleaner and reduce summer heat waves. It will
4 make our beaches and rivers more swimmable and
5 fishable and it will help us to show the world that
6 New York is not only the best city there is but it's
7 also the greenest. Thank you for this opportunity to
8 speak today, I've included more information in my
9 testimony specifically regarding each bit of
10 legislation that's being proposed and also a packet
11 that provides examples of what other cities in, in
12 the US are doing in terms of green roof laws, lucky
13 for us we do not have to reinvent the wheel we can
14 just learn from our, our neighbors who have already
15 done this for a decade or more.

16 CHAIRPERSON CONSTANTINIDES: Thank you.

17 MARIELLE ANZELONE: Good afternoon
18 Committee Chair Constantinides, distinguished members
19 of the Committee and guests. My name is Marielle
20 Anzelone, I'm an Urban Ecologist and the Director of
21 New York City Wildflower Week, a nonprofit
22 organization that connects New Yorkers to nature. I
23 thank the members of the Committee for this
24 opportunity to testify. I am here to speak in support
25 of the proposed green roof legislation and more

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2 broadly, underscoring the immensity of the work that
3 still needs to be done with regarding green as per
4 biodiversity. The United Nations is calling for a new
5 global accord on biological diversity. In 2020,
6 countries from around the world will convene in
7 Beijing to establish new goals for the UN Convention
8 on biological diversity. The result will be an
9 international pact to fight the global extinction
10 climate... crisis, equivalent to the Paris climate
11 accord. Planetary loss of biological diversity is one
12 of the greatest challenges of our times and requires
13 urgent local action. The success of the United
14 Nations agreement will hinge on the involvement of
15 cities to leverage their resources, innovation and
16 influence. New York City should lead the fight with
17 an expansive and forward thinking urban ecological
18 agenda. We need to ensure the resiliency of the
19 city's natural areas by prioritizing native species,
20 combating habitat loss, increasing access to nature
21 in underserved neighborhoods, expanding the
22 ecological economy. In doing so, New York City would
23 set a global benchmark as a leader in resilient,
24 livable cities worldwide. Somewhere in the evolution
25 of cities, it was decided that nature should be

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2 beaten back to its edges. Banished to the margin,
3 wildlife is largely peripheral to our urban lives. In
4 New York City nature is absent by design. Instead of
5 blue birds outside our windows, we have to seek them
6 out in fields. Instead of violets outside our doors,
7 we have to find them in forests. Why can't we have
8 both? There are myriad ways to weave wildness back
9 into the fabric of our neighborhoods, but such
10 endeavors are not prioritized or funded. If we
11 continue to define cities so narrowly, as only
12 hardscapes and humans, nature loses and so do we. If
13 urbanites can't easily get to parks and open space,
14 then these kinds of environments must be brought to
15 them. in the process, urban infrastructure is
16 recontextualized as a civic asset. One avenue towards
17 this goal is green roofs. Rooftops can be transformed
18 through the addition of wildflowers, grasses and
19 shrubs. Planting native species will provide food for
20 a diverse array of wildlife; pollinators including
21 native bees, butterflies, beetles, and flies, as well
22 as birds that feed on berries and seeds. Research
23 shows that native plants generally support many more
24 insects and birds than non-native species. Installed
25 throughout the city, such green roofs will provide

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2 connective stopover habitats. In sum, New York City
3 must make a more active role in recognizing and
4 encouraging the retention of its native biodiversity.
5 In other places around the world there are already
6 initiatives in place. At the time of global
7 biodiversity awareness, New York City is being left
8 behind. At this time, I'd like to call your attention
9 to the New York Times magazine from last month.
10 There's an article highlighting the so-called insect
11 Armageddon, the alarming collapse of insect
12 populations around the world. This global devastation
13 of wild insects is also happening here in our city.
14 Legislating the use of native plants on green roofs
15 is a good first step but there's still much more work
16 that needs to be done. Thank you for this opportunity
17 to testify.

18 CHAIRPERSON CONSTANTINIDES: I definitely
19 appreciate all of your testimonies and I think this
20 is also an opportunity for us to teach, you know by..
21 when we install green roofs and solar on our city
22 owned buildings especially our schools, I'm a big
23 proponent of us also having panels in those schools
24 to say here's how much greenhouse gas emissions have
25 been, you know stopped, here's how much fossil fuels

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2 we didn't burn, here... how much renewable energy has
3 been created or, or, or you know how we've saved. If
4 we can do that and build it into our curriculum then
5 it's an opportunity for not only us to, to fight
6 climate change on the big picture with those
7 installations but double, triple that by giving our
8 young people an opportunity to learn and so I
9 definitely agree with you, I know you have a quick
10 comment.

11 MICHELLE LUEBKE: Thank you, at the Bronx
12 River Alliance we incorporate all of our green
13 infrastructure installations into our education
14 program so we're planting pollinator... native
15 pollinator attracting native plants so that we're
16 providing critical habitat for the populations of
17 pollinators that are collapsing but then also because
18 the Bronx is a food desert we need that critical
19 pollinator food source so that they can pollinate any
20 food crops that are being planted and in one of our
21 parks we have a food way for people to come and
22 harvest the food sustainably from the park, learn
23 about it, learn native cooking techniques and, and
24 medicinal uses of native plants. So, it is absolutely
25 part of our educational programs so thank you.

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2 CHAIRPERSON CONSTANTINIDES: Go ahead.

3 MARIELLE ANZELONE: If I may piggy back
4 on that, the idea of educating our youth is critical.
5 New York City's natural areas, we have lots of
6 schools that are located near natural areas. For
7 example, Seton Falls Park in the Bronx is surrounded
8 by two elementary schools and two high schools and
9 the kids in those schools never go into the park so
10 there's a way to tie in the, the opportunities for
11 children in New York City to visit natural areas and
12 visit the green roofs that would be on the top of
13 their school and to make those kinds of connections
14 that nature is a continuum, it's not an either or
15 proposition.

16 CHAIRPERSON CONSTANTINIDES: I agree with
17 you, thank you so much for your advocacy and your
18 time here today, I appreciate your testimony, thank
19 you very, very much. Inger Yancey from Brooklyn NYC,
20 Brooklyn Green Roof LLC; Marni Majorelle of Alive
21 Structures; Mary Nell Hawk, Alstyn Solar LLC; Patrick
22 Weisel and Marsha Annenberg, Women's Caucus for the
23 Arts. There's still a couple of people missing,
24 anybody else I called.. let's see Inger Lancey, okay,
25 Marni?

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2 MARNI MAJORELLE: Yeah.

3 CHAIRPERSON CONSTANTINIDES: Okay, Mary?

4 Alright, Patrick Weisel, Marsha Annenberg? Going
5 once, going twice, alright. Please go... please go
6 ahead.

7 MARNI MAJORELLE: Okay, thank you very
8 much... [cross-talk]

9 CHAIRPERSON CONSTANTINIDES: Thank you so
10 much... [cross-talk]

11 MARNI MAJORELLE: Thank you everybody. My
12 name is Marni Majorelle, I'm the Founder of Alive
13 Structures, we are a green roof design and
14 installation company that started in 2007. I really
15 appreciate the conversation that we're having right
16 now, and I've waited a really long time for it. I
17 would be driving around in a tesla right now if this
18 type of legislation had passed long ago,
19 unfortunately green roof industry has had to not
20 flourish the way I had thought it would long ago and
21 that's a real missed opportunity for the environment
22 but also for a lot of jobs. I really do want to say
23 that I support a patchwork approach to making these
24 bills pass and I do think that the bills do need real
25 work and organizational support and getting feedback

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2 from the real estate community. That does not mean
3 watering it down, that does not mean reducing its
4 scope, we need to make practical implementations of
5 these ideas and this legislation. We have to have
6 both a mandate and strong, significant incentives.
7 The easiest mandate to follow through with, you know
8 new construction, the expense of designing a green
9 roof and building a green roof in the design phase is
10 not that high. Retrofits are a lot more expensive so
11 that's the easiest low hanging fruit to make a
12 mandate. However, we are in an environmental
13 emergency and we are in a crisis and we cannot lose
14 sight of that. In the inspirational words of Greta
15 Thunberg, the 15-year-old environmental activist, we
16 do not want your hope, we do not want your support,
17 we want your panic and we want your action. So, we
18 have to make strong, bold moves right now even if the
19 real estate market doesn't love every single one of
20 them. However, I do believe to make this work at all,
21 it doesn't matter who pays for it, we need
22 incentives, we need a green building permit which
23 anyone would love to have a green building permit,
24 anyone who's dealt with the DOB would say this is a
25 fabulous idea and would jump at the idea of

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2 installing a green roof because no one likes spending
3 time at the DOB obviously. So, then we really, really
4 need a property tax abatement, which is on the state
5 level and Steven Levin has introduced that. While
6 that's on the state level you guys have the power to
7 really push that and support it, we need that to
8 happen, five dollars and 23 cents is a joke, 15
9 dollars is great but we don't... we can't have it for
10 just year, we need this property tax abatement every
11 single year that that property owner is maintaining
12 the green roof because that property owner is
13 investing the money and cleaning the air and the
14 water of New York City which honestly I do believe is
15 New York City's job. So, that property owner just
16 took that off your plate so they should not have to
17 pay property taxes for as long as they maintain that
18 green roof. And we need access to free engineering
19 analysis and we need a reduction on the water bill
20 and you guys have this all-in writing. Thank you.

21 CHAIRPERSON CONSTANTINIDES: I, I
22 appreciate that, thank you very much.

23 MARNI MAJORELLE: You're welcome.

24 PATRICK WEISEL: So, who's the next...

25 [cross-talk]

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2 CHAIRPERSON CONSTANTINIDES: You're up.

3 PATRICK WEISEL: Oh, okay. I thought you
4 were going in the order you announced them, I'm
5 sorry.

6 CHAIRPERSON CONSTANTINIDES: No, no, no
7 you... I'm going from left to you know...

8 PATRICK WEISEL: Hello, my name is
9 Patrick Weisel, I hold a master's degree in landscape
10 architecture from the city college of New York and
11 I'm employed as a Senior Project Manager with Being
12 Here Landscape Architecture and Environmental Design.
13 I'm here today to express my support, my employer's,
14 and our client, the Nicotra Group's support for
15 Resolution 66-2018 and Introduction 1032-2018. My
16 client, the Nicotra Group, the largest commercial
17 landlord on Staten Island, will soon install what I
18 believe is the first urban rooftop farm planned for
19 new construction in New York City. The 30,000 square
20 foot green roof will sit atop Corporate Commons
21 Three, Nicotra's latest class A office building now
22 under construction on Staten Island's west shore.
23 Richard and Lois Nicotra are no strangers to
24 environmentally friendly development, they won the
25 Mayor's Zero Waste Challenge Award for reducing the

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2 most waste in the entire city, they founded the
3 Bloomfield Conservancy to preserve woodlands and
4 wetlands throughout the Corporate Park of Staten
5 Island and they are the only developers in New York
6 City to win the Arbor Day Award. Yet, they are
7 business people who need to turn a profit, so their
8 initial interest in installing a green roof was not
9 to benefit the environment, but to locally grow fresh
10 produce for their 1,000-seat banquet hall at their
11 Hilton Hotel. But as they began their quest for a
12 freshly picked salad tomato, they didn't know their
13 green roof would engage so many others in Staten
14 Island community and New York City. The city itself,
15 was their first green roof partner through DEP's
16 Green Infrastructure Grant Program, in which the
17 Nicotras saw an opportunity for funding to solidify
18 the project, while DEP saw an opportunity to
19 sustainably manage stormwater. The Nicotras then
20 connected with the city's leading expert in rooftop
21 farming, Brooklyn Grange, who will install and manage
22 the rooftop farm. Corporate Commons Three will become
23 Brooklyn Grange's latest farm. A charter school,
24 Lavelle Preparatory, and a vocational food service
25 school will occupy three of the new building's eight

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2 floors. Both see valuable opportunity in having a
3 working farm upstairs to teach children and young
4 adults where food comes from and how to sustainably
5 grow it in an urban environment. Tenants and workers
6 throughout Corporate Commons will have an opportunity
7 to rent a green roof event space or purchase fresh
8 produce to take home for better nutrition. So, an
9 idea that began as a fresh tomato in a bride's salad
10 also became a city's stormwater management tool, an
11 urban, urban farmer's field, a school's educational
12 opportunity, an event space, a farmer's market and
13 who knows what more as the green roof grows and the
14 community's imagination. You will surely hear today
15 about the many important environmental benefits of
16 green roofs. We also want to underscore their ability
17 to grow and benefit communities. We can only hope
18 this new legislation will create many more community
19 building green roofs throughout New York City, like
20 Corporate Commons Three. Thank you for your time.

21 CHAIRPERSON CONSTANTINIDES: Thank you so
22 much. Next up.

23 INGER YANCEY: Hi, my name is Inger
24 Yancey. I have a... I'm an architect in New York...
25 [cross-talk]

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2 CHAIRPERSON CONSTANTINIDES: Press the
3 mic to, to make sure you're...

4 INGER YANCEY: Hello?

5 CHAIRPERSON CONSTANTINIDES: Yes...

6 INGER YANCEY: Okay... [cross-talk]

7 CHAIRPERSON CONSTANTINIDES: We hear you.

8 INGER YANCEY: Hi, my name is Inger
9 Yancey, I founded my company, Brooklyn Green Roof
10 2008 when the green roof tax abatement was first
11 instituted, I am originally an architect registered
12 in the state of New York, have... also had to become a
13 contractor registered in the city of New York in
14 order to do this work. I stepped up because I felt
15 that this was the best use of my personal skills in
16 order to find a good way to help combat climate
17 change. I am really, really happy today to see all of
18 this energy and effort being put forward to support
19 green roofs and solar in our city and you know it's
20 hopefully maybe finally we will actually be able to
21 make a living doing this kind of work. There are a
22 lot of green jobs as people who've come before me
23 have said that will be supported and I firmly believe
24 that it is time to act on climate change in every
25 way, in every space, in every place, by every person

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2 and that the only way that New York City can really
3 step up to the plate is they need to incentivize
4 everyone to try to be able to be... to live their lives
5 in a greener way. So, they... these bills I think help
6 in a substantial way to allow people to step up to
7 the plate and be responsible. I would also say, I
8 know that there are a lot of people who are worried
9 about the financial implications and the structural
10 implications and all of this but as an architect I
11 can definitely say that... and as, as someone who's
12 been working in this field for ten years, the
13 buildings in this city are strong enough to put green
14 roofs on them, they need to have a fresh
15 waterproofing layer so that you make sure they don't
16 leak, they do need to be assessed and I would
17 definitely recommend adding new legislation that
18 helps building owners in getting their properties
19 assessed... structural assessment on roofs but there's
20 just a tremendous potential in this city for green
21 roofs to improve the environment in every way and I
22 support them. Thank you.

23 MARY NELL HAWK: Hi, my name is Mary Nell
24 Hawk, I started a company recently called Alstyre
25 Solar LLC, we're a family owned consultancy, we've

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2 had one success in Queens solarizing a building and I
3 got into this because I was... a lot of... tiredness
4 about going to demonstrations and things like that
5 and it has been a... an incredibly hard journey but
6 this black top roof in Queens with two families and
7 three stories plus a basement is now after like four
8 years generating 7.5 kilowatts of power, not... sort of
9 enough for the building but some of the relatives are
10 like, you know oh it's cheaper, we'll use more, you
11 know we're trying to get through that idea. So... but
12 with my time I guess I wanted to... thinks... one thing I
13 might contribute to these bills 0141 and 0276 and
14 most people already know it and people would dispute
15 it but our engineer said that if the building was not
16 good for a green roof because it was just not strong
17 enough so we went to solar after that and I think
18 that it might help the text of these things because
19 working with DOB and stuff is really hard just to
20 have something that says that green roofs may take
21 more stronger roofs than solar. The solar is working
22 really great and I lastly just want to ask everybody
23 in this room to look for a way to be involved in
24 solar, I would love a show of hands, who has gone
25 through the process of actually doing a solar from

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2 getting the roof looked at, which as you know is
3 expensive to in... getting Con Ed and going... generating
4 energy for say six months, could I please have a show
5 of hands?

6 [off mic dialogue]

7 MARY NELL HAWK: Okay. I challenge you,
8 look for... look for a place that you can get involved
9 in and with ours, our family that lived in the
10 building was not rich enough to do this but my
11 husband and I that don't live there did, we actually
12 started an LLC, leased the roof from the relatives
13 and now we are billing them for their electricity so
14 there's all kinds of ways to do this on a small scale
15 for small buildings and I think that's really one of
16 the huge answers. Thank you.

17 CHAIRPERSON CONSTANTINIDES: Thank you
18 very much and definitely appreciate all of your
19 testimonies and I, I think... I agree with you that we
20 have to get the tax abatement right, I mean I think
21 that we as New York City we need more control of our
22 ability to do our tax abatements without having to go
23 hat in hand to Albany every time we want to do
24 something like this. So, I'm hoping with the new
25 paradigm in Albany that we can actually be able to

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2 give those incentives more freely as a city and not
3 have to constantly ask them for permission to do so
4 and so looking forward to seeing what that democratic
5 state senate... let's... you know we can take that out
6 for a ride and see how it... you know how it goes.
7 Thank you very much for your testimony and your
8 advocacy.

9 MARNI MAJORELLE: Thank you.

10 CHAIRPERSON CONSTANTINIDES: Alright,
11 last panel Paul Mankiewicz; Aziz Dehrral [sp?]; Misty
12 Gonzalez; Willis Elkins; Chris Rice and Lucia
13 Pullman.

14 [off mic dialogue]

15 CHAIRPERSON CONSTANTINIDES: Alright, I
16 guess we'll... we started on this side last time so
17 let's start on this side this time. Go ahead.

18 MISTY GONZALEZ: Hi everyone I'm Misty
19 Gonzalez and I am the Founder and Creative Director
20 of Hortus Environmental Design and I'm also a
21 landscape specialist and specifications consultant
22 with Robert Schwartz and Associates. Where do I
23 start? So, what I would like to say is that in
24 addition to the wonderful advocates who have gone
25 before us and their comments on adding employments

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2 and also opportunities for heat island management as
3 well as water management, you know I didn't think I
4 was going to be this nervous when I got up here
5 because I was just fine, right...

6 CHAIRPERSON CONSTANTINIDES: Oh, don't be
7 nervous, you're doing great, you're doing fantastic,
8 nothing to be nervous about, go ahead.

9 MISTY GONZALEZ: At any rate, what I
10 would... what I would like everyone to consider in
11 addition to what we've already heard is that nature
12 has a much further reaching effect on us than we
13 realize and there are scientifically based studies
14 that prove that green spaces are vital to residents
15 in urban communities and what that means for all of
16 us is that then we go outside and we interact and we
17 take better care of our environments and one another
18 and that means that the cohesion of the community is
19 the success of the community as a whole and in
20 addition to that if we look at that from a standpoint
21 of a company because I know that we have to marry
22 these two, there's one that's very idealistic and
23 then there's another point of view that's very
24 financial and there has to be some meeting in the
25 middle with these and what I would submit to you that

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2 if you look at any company, if you look at the state
3 of the employees you know the state of the company
4 and so if we look at the state of our residence in
5 New York City, if we look at the state of our
6 residents we know the state of our city and I feel
7 it's very important that we look at that from, from
8 that point of view. Something that was also important
9 that was brought up before is that we're in the
10 middle of the sixth mass extinction and what that
11 means is it's an all hands-on deck moment, it's not a
12 time for any of us to sit and contemplate, it's time
13 for all of us to act. And I do believe that there are
14 trifectas in terms of architecture being good for
15 people, being good for finance and being good for the
16 environment and I believe that that is the... a
17 possible and detainable goal that is actually
18 executable and in conclusion I would just say that
19 New York City is really a model for arts, we're a
20 model for music, we're a model for culture and
21 sophistication and I really believe that it behooves
22 us to get on this train and be a model for
23 sustainable living and better societies.

24 CHAIRPERSON CONSTANTINIDES: Thank you so
25 very much, I appreciate it. Go ahead, next.

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2 WILLIS ELKINS: Thank you for the
3 opportunity to speak. My name is Willis Elkins, I'm
4 the Executive Director of the Newtown Creek Alliance
5 and I want to speak a little bit specifically about
6 some of the direct impacts, we've talked a lot about
7 stormwater management but what it really means to me
8 and my community and our constituents. So, Newtown
9 Creek as many of you know super fun waterway, borders
10 Queens and Brooklyn, we have severe historical
11 contamination there as well, but we also suffer
12 tremendously from combined sewer overflow. Every year
13 our waterway which is a small, narrow area only four
14 miles long receives over... well over a billion gallons
15 of combined sewage every single year and we... of... as,
16 as we know this is caused by the way that our sewer
17 system is designed and rainwater as little as
18 sometimes a tenth of an inch of rain can overwhelm
19 our treatment plants and cause this untreated sewage
20 to go into the waterway. The result of that of course
21 is places like Newtown Creek, Flushing Creek, Bronx
22 River, Gowanus Canal, all these vital community
23 areas, there could be, you know more resources for
24 the community. Our failing to meet clean water act
25 standards that were set over 40 years ago, it's

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2 unsafe for, for human contact and promotes... you know
3 poses tremendous threats to the wildlife that is in
4 the waterway and struggling to exist there. So, part
5 of the solution that the city has put forward as the
6 long-term control plan for the creek is to build a
7 massive underground storage tunnel to capture CSO
8 when it rains something that generally we're
9 supportive of but it's incredibly expensive, a
10 billion-dollar project and it's going to take 25
11 years to complete. The city is also been pursuing
12 their green infrastructure program focused primarily
13 on these rights of way rain gardens or bio swells.
14 The city has installed thousands of these throughout
15 the city, it's something that we're very supportive
16 of but there are severe limitations as to how much
17 stormwater we can absorb with the... with the rain
18 gardens and that's things like we heard about in the
19 Bronx with geological considerations, there's things
20 about where you can actually place them, soil
21 contamination like we have in Greenpoint and other
22 places around the creek so there's real limitations
23 and the most obvious place to be collecting
24 stormwater is... in addition to the streets and
25 sidewalks is on top of our buildings and it's really

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2 as we heard before the less than point one percent of
3 our rooftops actually catching stormwater is a real
4 travesty and it needs to be changed and it's the real
5 obvious, most obvious solution to preventing combined
6 sewer overflow. Citywide we heard earlier that again
7 the stat over 20 billion gallons of untreated sewage
8 every storm... every year entering New York Harbor,
9 it's, it's, it's kind of insane that we're this far
10 past the clean water act and yet we still have our
11 waterways that are... that are unfit for human contact.
12 So, I really just want to emphasize that point, there
13 are direct impacts of stormwater it's not just
14 something we can talk about in vanity. I spend dozens
15 and dozens of days out on the waterway dealing with
16 the direct impacts, measuring water quality and
17 things like that and frankly we need to see real
18 action now and not wait 25 years. The other part I
19 want to add is just that I am fortunate to be part of
20 the point zero one percent that works in a building
21 that has a green roof on top, it's an amazing
22 community resource, kings and wildflowers, we bring
23 school groups up there, community members use it as
24 open space and it's a wonderful asset and provides
25 all these additional benefits for habitat and nature

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2 and connection of nature and all that so thank you
3 for your time.

4 CHAIRPERSON CONSTANTINIDES: Thank you
5 very much and I, I... if you... if you come out to Queens
6 we've got the, the CSO next to the Hallets at Hallets
7 Cove and it butts public housing, we also have the
8 Jamaica Bay CSO that abuts the Elmjack Little League
9 so on a, a day after its rained and my son calls it
10 the rotten egg river because of the smell there can
11 knock, knocks the parent's and the kid's off their
12 feet..

13 WILLIS ELKINS: Steinway Creek?

14 CHAIRPERSON CONSTANTINIDES: Steinway,
15 yeah. Yeah, there's, there's... we can go on and on and
16 on so I, I appreciate the, the efforts and the work
17 that you guys are doing in, in Newtown Creek. Go
18 ahead.

19 LUCIA PULLMAN: Hi, my name is Lucia
20 Pullman, thanks for the opportunity to speak today.
21 I'm speaking as a resident of New York, I just moved
22 here actually from the Bay area where I was working
23 in Urban Ag and green infrastructure type projects
24 and I'd like to say that first off in California and
25 in the West we do not have the built environment to

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2 withstand snow and to compare the west and the type
3 of buildings that are built there and to look at the
4 west as an equivalent is not true, New York City's
5 buildings are meant to sustain greater weight and
6 thus you're at a huge comparative advantage to be
7 able to be doing this kind of work and so it's kind
8 of frustrating to hear you guys compare those things
9 when you're really at a big advantage. So, I think in
10 your conceptual framework around how we're doing in
11 New York City, I think you should realize the
12 comparative advantage that you guys have in your
13 built environment. Secondly, I think that one of the
14 big learnings I had listening to testimony was the
15 co-benefits of putting solar and green infrastructure
16 on roofs together in that they double... or a 15 to 25
17 percent increase in the efficiency of solar panels,
18 that's a huge win and I think that there should be
19 recognition of that in whatever legislation that you
20 do provide, if you use two of the sustainable roof
21 methodologies on a single roof that you should be
22 reaping additional benefits for that kind of work
23 instead of it being the same kind of incentive. And,
24 and the third, I'd like to point out a New York City
25 housing authority program called Access Solar which

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2 enables community nonprofits and other small
3 businesses to rent NYCHA roofs at no cost or low cost
4 to implement solar projects, I think that that kind
5 of model can open up a lot of New York City's
6 rooftops for like more creative owners of those solar
7 and green roof projects, it doesn't have to be the
8 property owner that's investing and maintaining those
9 kind of works. There's a lot of need within the
10 community for green space and for cheaper renewable
11 energy and those smaller businesses and nonprofits
12 can invest in opening up private rooftops that
13 otherwise wouldn't be invested in. Thank you for your
14 time.

15 CHAIRPERSON CONSTANTINIDES: Thank you
16 very much. Sir, next up.

17 DR. PAUL MANKIEWICZ: Hi. Yeah, good
18 afternoon Dr. Paul Mankiewicz, I, I'm the Founding
19 Board Member of the New York City Soil and Water
20 Conservation District. I run something called Gaia
21 Institute, I have a business called Gaia Technology,
22 they put in green infrastructure and I've worked on,
23 on this for a long while in New York City. This is a
24 great framework, the problem with it, it... well it's
25 bound to... it's guaranteeing its own failure now

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2 because there's no water in it because plants without
3 water are black body radiators, so you can take a
4 heat gun like this and point it at grass or its sedum
5 and it will... on 100 and... on a 95 degree day it'll be
6 102, 104, same... it's all the same and I, I brought a
7 paper by Cynthia Rosenzweig, it says the same thing.
8 So, basically... but the other side of it is there's
9 also a plus, plus basically a multiple benefit which
10 is basically we have... give me 600 million gallons a
11 day of grey water in New York City besides the
12 stormwater that is worth about six times our peak
13 load requirement, I'm doing that valuation because
14 every 33 gallons of water you'd have to transpire
15 from a green roof is basically worth a ton of air
16 conditioning basically worth something like 20-ish
17 bucks. So, the point is the six dollars we pay for
18 each 100 cubic feet of water is worth 400 dollars in
19 pulling capacity and I don't have one in Queens but
20 if you come to the Linda Tool Corporation in, in
21 Brooklyn he saves 40 percent of his air conditioning
22 and 24 percent of his heating but plants are not
23 plants, are not plants, without water they're black
24 body radiators and basically the framework that is
25 now in front of everyone is that we are basically...

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2 you... so, walk inside of a park when it's at... if it's
3 dry a bunch of days and those... it's going to be warm
4 because it's actually... we know it from sweating. So,
5 it's... also the, the other way to say this is 16 grams
6 of water are worth about a gram of Iraqi oil, where
7 you want to get it and what do you want to do with it
8 because the energy is energy, is energy, is energy.
9 So, that's about all I have to say just I, I think
10 you can, can entirely change this framework but it's...
11 the, the transformative force on the planet is water
12 be... you can't do it with something small, you have to
13 get multilayers. If you put some specs... some
14 specification on green roofs for water holding and
15 basically being moist considering water is great,
16 it's just water is... as Cynthia Rosenzweig and others
17 are telling you, walk inside a park on a... on a... on a
18 hot day and it'll be cooler if it's rained recently
19 much, much, much cooler. So, I would love to see that
20 because this is certainly the right track.

21 CHAIRPERSON CONSTANTINIDES: Thank you.

22 CHRIS RICE: Good afternoon, I'd like to
23 thank the City Council for having this hearing, it's
24 long overdue. As an introduction my name is Chris
25 Rice, I am a Manufacturer's Representative to

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2 American Hydrotech in the New York City territory.

3 I've been with roofing and waterproofing and green

4 roofs for over 25 years so basically my discussion is

5 to talk about green and the cost. That's the bottom

6 line to owner developer, green is great, we're all in

7 this room, we all could agree it is great for the

8 infrastructure and for the environment but bottom

9 line here is what is the cost. Getting to the

10 gentleman Mr. Yeger there and talking about the

11 building surrounded by other buildings having green,

12 there are other methods of doing a good blue roof,

13 green roof design there for stormwater management

14 which is really big here in New York City. Thanks to

15 a nice DEP grant that offers 30 dollars a square foot

16 but unfortunately, it's not marketed to the owner

17 developer, they don't know about this. This is low

18 lying fruit that could be used by any owner or

19 developer in private or in retrofits. So, as for your

20 school there at PS 2 in Queens which is a paver

21 assembly you could replace those pavers with a green

22 tray holding the insulation down and still getting a

23 grant involved in that if you can, 30 dollars is

24 substantial. When you use a green tray, which weighs

25 about 25 pounds saturated wet that could be in lieu

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2 of a paver that's sitting on top of insulation. That
3 green tray on average is about 15 dollars a square
4 foot, that qualifies for a 3e0 dollar grant, that
5 offsets the cost of material and possibly insulation
6 whether it's a union or non-union job. So, in terms
7 of green infrastructure this has to be done and if
8 you don't know storm Sandy was the big wake up call,
9 it's managing water in our city. If you have a
10 quarter inch of rain it goes through our sewer system
11 which is well over 100 years old, if you break one of
12 those sewer pipes it's going to cost you millions of
13 dollars to repair it. We have to slow the migration
14 of water down by having green and solar and all the
15 wonderful things on top that's a great benefit to
16 ownership but you have to show the owner developer
17 where the money's at so they could put it back in. If
18 you do a blue roof in new construction, you have a
19 stormwater retention tank that's below grade costing
20 hundreds of thousands of dollars if not millions. If
21 you do a blue roof using all those concrete platforms
22 that they're building already to put waterproofing on
23 it that could be taken out saving the owners cost,
24 big... major cost on that by doing a blue roof on that.
25 So, there's a lot of great stuff, you should get

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2 involved owner and developers, I don't think there
3 are any hear, you should have them involved and hear
4 their input, you should also have waterproofing
5 manufacturers that have, have all this research and
6 information on that because when you do a blue roof
7 or a garden roof you want to make sure that building
8 is water tight, it does not leak and manufacturers
9 can offer warranties for 30 years of labor and
10 material covering everything on that roof from the
11 green to the insulation for R value and the
12 waterproofing done by an applicator and again I
13 represent a manufacturer that's an open designer,
14 it's not proprietary and as being a New York citizen
15 for all my life and paying taxes this is the best
16 thing you could do for the city of New York. Follow
17 everything else, follow Chicago, follow European
18 markets they're doing it why are we so slow? Right,
19 if you have to find revenue it's like if we're being
20 charged our water bill, you're now going to have to
21 charge the owner developer a tax if they don't have
22 stormwater management on their concrete platforms. I
23 thank you, my name is Chris Rice.

24 CHAIRPERSON CONSTANTINIDES: I, I thank
25 you all for your, your testimony here today and your

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2 advocacy and your patience, I know that it's been a
3 couple of hours since this hearing began so I
4 appreciate you staying here for the entire hearing
5 and giving your good testimonies so thank you. So,
6 with that I will say that we are grateful to the
7 administration, it looks like we... they are in support
8 of these bills, we're looking forward to seeing them
9 passed very soon. I want to thank all of the
10 advocates and all of those who gave testimony today
11 to make this... we need... you know to make this
12 possible, we need to make New York City greener and
13 more sustainable and green roofs, solar, wind will
14 help us get there. So, I look forward to working with
15 all of you to make New York City the place that we
16 need it to be to combat climate change. I want to
17 thank my colleagues who are here and members of the
18 committee, I want to thank our Staff Attorney and a
19 great leader in her own rights, Samara Swanston,
20 thank you Samara and of course Nadia Johnson our
21 Policy Analyst and now our new Policy Analyst Ricky
22 as well, welcome and our Financial Analyst Jonathon
23 Seltzer who I think was here before and of course my
24 Attorney and Legislative Director Nick Widzowski and
25 to the Sergeant at Arms, thank you for making this

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such a seamless hearing as always and with that I'll
gavel this hearing of the Environmental Protection
Committee closed.

[gavel]

C E R T I F I C A T E

World Wide Dictation certifies that the foregoing transcript is a true and accurate record of the proceedings. We further certify that there is no relation to any of the parties to this action by blood or marriage, and that there is interest in the outcome of this matter.



Date

February 15, 2019