

MIAMI BEACH

Sustainability Resiliency Committee Meeting
City Manager's Large Conference Room
July 19, 2017 - 1:00 PM

Commissioner Michael Grieco, Chair
Commissioner Ricky Arriola, Vice-Chair
Commissioner Kristen Rosen Gonzalez, Member
Commissioner Joy Malakoff, Alternate

ACTION ITEMS

1. BUSINESS CASE ANALYSIS OF THE RESILIENCY PROGRAM UPDATE
Susanne Torriente, Assistant City Manager/Chief Resiliency Officer
2. DISCUSSION ON HAVING MIAMI BEACH COMMIT TO ENSURING THAT ALL GOVERNMENT BUILDINGS WILL BE POWERED BY 100% RENEWABLE ELECTRICITY
Commissioner Kristen Rosen-Gonzalez
Flavia Tonioli, Sustainability Manager | Adrian Morales, Property Management Director
Item R9 AB - May 17, 2017 Commission Meeting
3. DISCUSSION ON RETROFITTING WATER FOUNTAINS WITH WATER BOTTLE REFILLING STATIONS
Commissioner Kristen Rosen Gonzalez
Flavia Tonioli, Sustainability Manager | Adrian Morales, Property Management Director
Item C4B - April 24, 2017 Commission Meeting
4. DISCUSSION ON REQUIRING SUSTAINABILITY STANDARDS SIMILAR TO LEED FOR RETROFITS IN CITY-OWNED PROPERTIES
Commissioner Kristen Rosen-Gonzalez
Flavia Tonioli, Sustainability Manager | Adrian Morales, Property Management Director
Item C4G - November 9, 2016 Commission Meeting

DISCUSSION ITEMS

5. DISCUSSION ON PAINTING BLACK TAR ROOFS OF CITY BUILDINGS WHITE
Commissioner Kristen Rosen-Gonzalez
Flavia Tonioli, Sustainability Manager
Item C4E - June 28, 2017 Commission Meeting
6. DISCUSSION ON ALTERNATIVES TO PLASTIC WARE IN BEACH CONCESSIONS
Commissioner Michael Grieco
John Ripple, Beach Management Director | Mark Millisits, Asset Manager
Item R7E - May 11, 2016
7. DISCUSSION ON RECEIVING AN UPDATE REGARDING CITY ACTION AND FINES GIVEN TO GARBAGE OPERATORS FOR LEAKING TRUCKS
Commissioner John Elizabeth Aleman
Sarah Saunders, Code Compliance Manager | Al Zamora, Sanitation Director
Item C4C - March 1, 2017 Commission Meeting

REPORTS

8. MAYOR'S BLUE RIBBON PANEL ON FLOODING AND SEA LEVEL RISE
Eric Carpenter, Assistant City Manager
 9. SUSTAINABILITY COMMITTEE
Dave Doeblen, Chair
 10. RESILIENCY STRATEGY
Amy Knowles, Deputy Resiliency Officer
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Item 1.
COMMITTEE MEMORANDUM

TO: Sustainability Resiliency Committee Meeting

FROM: Jimmy L. Morales, City Manager

DATE: July 19, 2017

SUBJECT: **BUSINESS CASE ANALYSIS OF THE RESILIENCY PROGRAM UPDATE**

RESPONSIBLE DEPARTMENT:

Susanne Torriente, Assistant City Manager/Chief Resiliency Officer

BACKGROUND:

At the January 2017 Sustainability and Resiliency Committee, during the Resilience Strategy Work Plan monthly update, Commissioner Arriola and four additional Commissioners present discussed the need for and requested a data-based business case study of our resilience program.

Analysis

Staff has since prepared the following scope to begin to address the complex relationships between the city's infrastructure investments and risk in the city, the property tax base, the flood insurance market, the real estate market and mortgage cycles.

Scope of Work

The business case study requested is an economic analysis of the value of our risk reduction investments to address flooding and sea level rise. This analysis should explain the risk cost of inaction (in dollar terms) and the extent to which the risk cost is likely to be reduced as a result of the city's infrastructure investments (also in dollar terms).

This analysis should also consider the complex relationships between the anticipated reduction in risk cost and:

- our private property tax base;
- flood insurance (both future FEMA models / FIRM maps and private market rates);
- the availability and affordability of private property mortgages over mortgage cycles; and
- the city's municipal credit rating and insurance premiums.

This analysis would explain these interdependent relationships decision-makers and it would also be an evidence-based tool to communicate the city's risk reduction investment.

Process

Staff consulted with the 100 Resilient Cities network who were quite intrigued with our complex question. The Network connected us to several subject matters experts: Swiss Re, a global provider of risk financing solutions; AIR Worldwide, a provider of catastrophe risk modeling; and RMS, a risk and resilience modeling company. All three of these companies have established, to varying degrees, relationships with governments to help them understand risk and risk reduction. This is new and

complex for most local governments. The exact questions we have posed are at the edges of their traditional work. However, one company, RMS did understand the series of connections between our risk reduction efforts and the wider economic viability of the city.

Discussions with RMS were encouraging at the beginning, and they provided us a letter on April 10, 2017 confirming their understanding of our requirements and their preliminary ideas on how they would propose to work with the city. Responding to our guidance, their approach was designed to fit a relatively small budget (\$75,000) and to be completed in a relatively short timeframe (75 days).

According to that April 10 letter, and the project scope defined in conversations between RMS and the City, RMS would:

1. Assemble an interdisciplinary team to include climate hazard modelers, physical impact modelers, data scientists and economic modelers
2. Analyze the following in terms of dollars:
 - Quantify risk today in the absence of adaptation
 - Quantify how risk will change over time in absence of adaptation
 - Quantify the reduction of risk resulting from an intervention
 - Assess how risk reduction can impact external forces (i.e., insurability and credit)

Their initial approach, as amended by the SRC members was to take three typical streets – one commercial, one single-family residential and one multi-family residential – to provide a quantification of the direct value of our risk reduction investments. The perils addressed would be extreme rainfall and different levels of high tides RMS would then provide some expert commentary on the indirect relationship between these investments and wider, economic matters, such as our tax base, the insurability of private property in the city, the real-estate market and mortgage availability. This was considered Option A.

Costs & Options

According to RMS the market rate for a preliminary project of this nature is in the \$350k - \$500k range. However, leveraging a combination of the 100 Resilient City network and RMS' long-term commitment to increasing the resilience and sustainability of communities and economies in South Florida, RMS offered initial services at sub-commercial rates, \$75,000 plus expenses.

RMS further proposed that if the analysis proved useful, further economic analysis of similar interventions in the rest of Miami Beach, as well as of different types of interventions (e.g. sea walls) protecting Miami Beach from different sources of loss (e.g. storm surge) could be the next step. That step could be a holistic, analytics-based approach to managing resilience in Miami Beach. This comprehensive, strategic approach was referred to as Option B.

Under Option B Miami Beach the full menu of services the city could procure includes, but is not limited to the extension of the risk cost analysis to consider:

1. The entire City of Miami Beach
2. Other sources of flooding (e.g. storm surge)
3. Other sources of loss entirely (e.g. hurricane, infectious disease)
4. Additional flood mitigation options (e.g. seawalls, temporary defenses)
5. Other resilience investments which protect the city from other sources of loss
6. Losses beyond property damage
7. The implications for emergency planning and response
8. Risk financing strategies – for City-owned assets and for residents / local businesses

According to RMS, this more complete engagement would enable City Staff and Commissioners alike to stress test the implications of various resilience strategies over different time horizons across a range of

exposures and perils on a probabilistic basis. It will allow feed the city with science-based, resilience analytics on the economic implications of our action / inaction which will help inform decision-making in various decision contexts, serving this and future Administrations for years to come. Option B would therefore help us greatly build our internal capacity across different city functions to view all our decisions through the lens of resilience. It would of course come with training and support, and would ultimately lead to self-sufficiency, rather than continued dependency on professional services from third-party consultants.

Option B could be implemented through a series of engagements with RMS, following careful review and selection by the City. The estimated timeframe for the full scope of option B is 2-5 years, with fees estimated to be in the range of \$2m to \$15m. RMS has offered to provide for the consideration a document illustrating a potential breakdown of Option B into a series of engagements, as well as associated timeframes, fees and dependencies.

UPDATE:

At the April Sustainability and Resiliency Committee, staff presented the scope of work described above as well as a pilot proposal (Option A) from RMS. The members present were in support of moving forward with this pilot across three streets at an estimated cost of \$75,000 plus expenses. Since April, staff from my office, Procurement and City Attorney's Office have been in conversation with RMS. Several Commissioners have expressed interest in this analysis and have inquired as to the status of contract discussions. Even though this is a very small contract matter (\$75,000), the City Attorney's Office has exchanged multiple drafts with RMS in an effort to accommodate RMS's numerous proposed revisions. Unfortunately, although the City Attorney's office has offered to limit RMS's liability to the contract value of \$75,000 (excluding insurance proceeds that may be available under RMS's general liability policy to cover the City for RMS's negligence), RMS has insisted on additional limitations of liability, and for this reason we have not come to agreement on terms. Additionally, RMS is somewhat hesitant to fully commit to the smaller engagement (Option A), without the hope or commitment to proceed to a more strategic engagement (Option B) with the more extensive scope and fee described above.

CONCLUSION

Given that the legal matters cannot be resolved and this could be very large unbudgeted amount, staff now believes the best route is to competitively solicit for this solution. Through the competitive process we can test the market, different scenarios and price to seek the best product for the City of Miami Beach. This initiative is not currently part of the FY 2017- FY 2018 budget development. Staff is seeking SRC support to develop and issue a competitive solicitation for this economic analysis.

ATTACHMENTS:

Description	Type
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No Attachments Available

MIAMI BEACH

Item 2. COMMITTEE MEMORANDUM

TO: Sustainability and Resiliency Committee

FROM: Jimmy L. Morales, City Manager

DATE: July 19, 2017

SUBJECT: **DISCUSSION ON HAVING MIAMI BEACH COMMIT TO ENSURING THAT ALL GOVERNMENT BUILDINGS WILL BE POWERED BY 100% RENEWABLE ELECTRICITY**

RESPONSIBLE DEPARTMENT:

Flavia Tonioli, Sustainability Manager | Adrian Morales, Property Management Director

LEGISLATIVE TRACKING:

Item R9 AB - May 17, 2017 Commission Meeting

SPONSORED:

Commissioner Kristen Rosen-Gonzalez

BACKGROUND:

On May 17, 2017, the Mayor and City Commission referred a discussion to the Sustainability and Resiliency Committee (SRC) regarding a commitment to ensure that all government buildings will be powered by 100% renewable electricity. This item was sponsored by Commissioner Kristen Rosen Gonzalez.

At the June 7, 2017 SRC, a motion was passed by acclamation directing staff to investigate retaining a pool of ESCOs to conduct energy efficient projects, as well as identify buildings to install solar panels to further the city's renewable energy goals.

Analysis

At the request of the SRC, staff identified three buildings to potentially install solar panels to further the city's renewable energy goals: the Botanical Gardens, Police Athletic League (PAL) and the Art Deco Welcome Center. The estimated cost to purchase solar panels and the electrical infrastructure for all three buildings, not including installation, varies from \$126K to \$198K (Attachment A), depending on the maximum amount of solar panels that could be potentially installed at each property. If the higher estimate of solar panels can be installed at the PAL building, the solar panels could potentially cover up to 97% of the average monthly electricity consumption.

As recommended by the SRC, staff also investigated the Muss Park Pavilion's potential for solar panels. While the building roof has an area of approximately 3,000 square feet, the building has an arched roofline, with a majority of the roof facing north (Attachment B). For solar to be beneficial, southern exposure must be maximized. Therefore, the orientation does not make this building a good candidate for solar. In addition, the building's trusses, which scheduled to be installed in the next couple of weeks, may not be able to accommodate the additional loading from solar panels.

Also, per the request of the SRC, staff evaluated the option of engaging in a multi ESCO agreement to explore potential retrofit projects that can reduce municipal building energy consumption. The city's 13-year agreement with Ameresco is currently being audited. Once the Ameresco audit is completed, the city will be able to determine whether it should continue with the current agreement and whether the projects contracted under this agreement could overlap with potential retrofit projects in a potential multi ESCO agreement. For this reason, it is recommended to have the results of the audit completed, to then proceed with the potential multi ESCO agreement. This recommendation was also provided for another item presented at SRC (LEED (Leadership in Energy & Environmental Design) for retrofits in city-owned properties).

The current Energy Conservation Measures (ECMs) listed on the Ameresco agreement include Facility Lighting and Lighting Control Upgrades, Domestic Water Conservation, HVAC Controls, Geothermal Cooling-Police Station, Power Transformer Replacement, Geothermal Cooling-Convention Center (decommissioned), Chiller Plant Optimization, and District Cooling Plant. According to the agreement, Ameresco shall have the right to install additional ECMs and to revise any procedures for the operation of the ECMs or implement other procedures at the premises which include most of municipal buildings.

CONCLUSION

The following is presented to the members of the Sustainability and Resiliency Committee for discussion and further direction.

ATTACHMENTS:

Description	Type
□ Attachment A: Cost Estimate for Potential Solar Panel Projects	Other
□ Attachment B: Muss Park Pavilion Roof Design	Other

Attachment A- Cost estimate for potential solar panel projects

Botanical Garden: 32,785kWh/month average \$3,230/month average

Minimum System Size	195,148	Watts
Average Sun Hours	5.6	Hours
Solar Panel Wattage	300	Watts
Building Roof Area	10,000	SF
Number of Solar Panels to Fit Roof Area	566	Panels
Average Electricity Generated	28,526 kWh/month	
Estimated cost to purchase solar panels	\$198,100	

Installing solar panels on the entire roof area would provide up to 87% of the average monthly electricity consumption.

PAL: 29,288 kWh/month average \$3,230/month average

Minimum System Size	174,333	Watts
Average Sun Hours	5.6	Hours
Solar Panel Wattage	300	Watts
Building Roof Area	10,000	SF
Number of Solar Panels to Fit Roof Area	566	Panels
Average Electricity Generated	28,526 kWh/month	
Estimated cost to purchase solar panels	\$198,100	

Installing solar panels on the entire roof area would provide up to 97% of the average monthly electricity consumption.

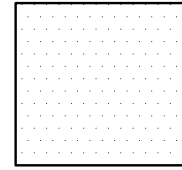
Art Deco Welcome Center: 31,640 kWh/month average \$2,599/month average

Minimum System Size	188,333	Watts
Average Sun Hours	5.6	Hours
Solar Panel Wattage	300	Watts
Building Roof Area	6,357	SF
Number of Solar Panels to Fit Roof Area	360	Panels
Average Electricity Generated	18,144 kWh/month	
Estimated cost to purchase solar panels	\$126,000	

Installing solar panels on the entire roof area would provide up to 57% of the average monthly electricity consumption.

INSULATED STANDING METAL ROOF.
BASE OF DESIGN: MIAMI-DADE NOA# 12-073103

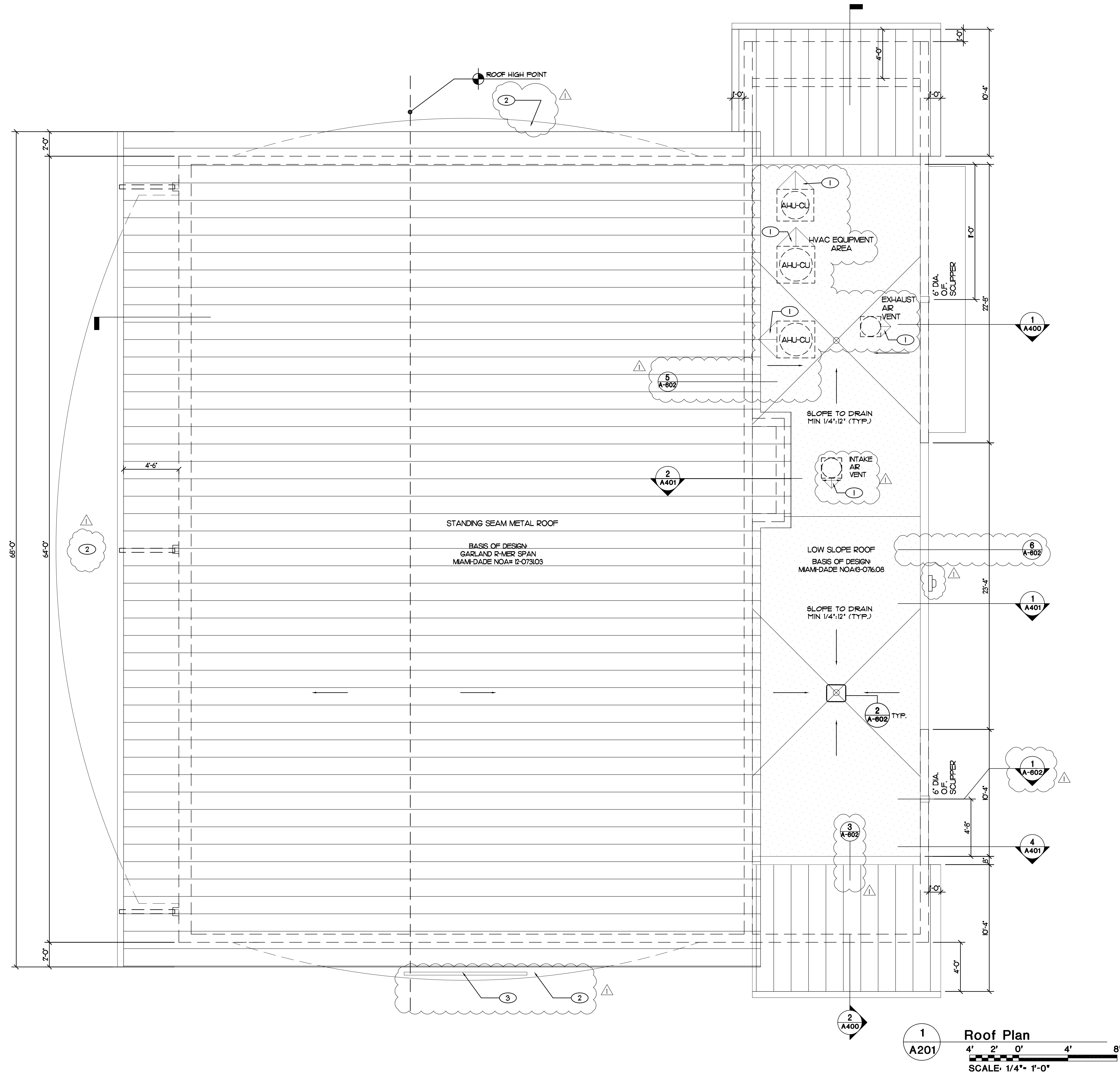
INSULATED STANDING METAL ROOF.
BASE OF DESIGN: MIAMI-DADE NOA# 12-073103



MODIFIED BITUMINOUS MEMBRANE OVER POLYISO INSULATION OVER STEEL
DECK. BASIS OF DESIGN: MIAMI-DADE NOA# 13-076.08

STRUCTURE BELOW (REFER TO STRUCTURAL DRAWINGS)

- ① PROVIDE CRICKETS TO DRAIN 1/4" PER FOOT SLOPE MINIMUM.
- ② LIQUID APPLIED WATERPROOFING MEMBRANE ON CONCRETE BRIS SOLEIL BELOW, TYPICAL.
- ③ BUILDING SIGNAGE.



REVISIONS	BY
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4300 CHASE AVENUE
MIAMI BEACH,
FLORIDA 33139

NATIVIDAD SOTO, FAIA
AR 9945

PROJECT TEAM:

STRUCTURAL ENGINEERS
DOUGLAS WOOD ASSOCIATES, INC.
1040 NW 7TH STREET
SUITE 820
MIAMI, FLORIDA 33126
PH. 305 461-3450
FAX 305 461-6353
E-MAIL info@douglaswood.biz
WWW www.douglaswood.biz

OWNER
MIAMI BEACH
CITY OF MIAMI BEACH
700 CONVENTION CENTER DRIVE
MIAMI, FLORIDA 33139

ARCHITECTS
FERGUSON GLASGOW SCHUSTER SOTO, INC.
101 PONCE DE LEON BOULEVARD
SUITE 304
CORAL GABLES, FLORIDA 33134

LANDSCAPE ARCHITECTS
AVINO & MILLER DESIGN STUDIO
 2345 NE 6TH AVENUE A
 NORTH MIAMI, FLORIDA 33161

MEP
MTEC, CORP.
50 CATALONIA AVENUE
SUITE 406
CORAL GABLES, FLORIDA 33134

CIVIL ENGINEERS
ISCAYNE ENGINEERING COMPANY, INC.
29 W. FLAGLER STREET
MIAMI, FLORIDA 33130

EED CONSULTANT
SEBASTIAN EILERT ARCHITECTURE
 1840 SW 85TH STREET
 SUITE 304
 MIAMI, FLORIDA 33173

GEOTECHNICAL ENGINEER
ORDAMAN & ASSOCIATES
608 W. 84TH STREET
DALEAH, FLORIDA 33016

PAVI

PAVILION, MUSS PARK
MIAMI BEACH, FLORIDA

597

ate: 07/05/16

Scale: AS SHOWN

Drawn by: NSG/ARG

bb: 15114

Sheet

A-201

MIAMI BEACH

Item 3. COMMITTEE MEMORANDUM

TO: Sustainability and Resiliency Committee

FROM: Jimmy L. Morales, City Manager

DATE: July 19, 2017

SUBJECT: **DISCUSSION ON RETROFITTING WATER FOUNTAINS WITH WATER BOTTLE REFILLING STATIONS**

RESPONSIBLE DEPARTMENT:

Flavia Tonioli, Sustainability Manager | Adrian Morales, Property Management Director

LEGISLATIVE TRACKING:

Item C4B - April 24, 2017 Commission Meeting

SPONSORED:

Commissioner Kristen Rosen Gonzalez

BACKGROUND:

On April 26, 2017, the Mayor and City Commission referred a discussion to the Sustainability and Resiliency Committee (SRC) regarding retrofitting water fountains with water bottle refill stations. This item was sponsored by Commissioner Kristen Rosen Gonzalez.

At the June 14, 2017 SRC meeting, the Committee directed staff to estimate costs to retrofit water fountains in City Hall with water bottle refill stations.

Analysis

Water bottle refill stations are becoming popular in municipalities, campuses, parks, and buildings across the country. They allow users to fill reusable water bottles instead of drinking from plastic water bottles, thereby reducing single-use plastic consumption.

The University of Maryland has installed 103 electronic water bottle refill stations on its campus. Over a three year period, they have prevented almost 3 million plastic bottles from disposal. They reported that the use of the stations has increased by an average of 660 percent annually over the first three years since installation.

Per the Committee's direction, the Property Management Division has obtained a proposal for retrofitting the water fountains in City Hall with water bottle refill stations (Attachment A). Based on the proposal, the materials required for installation cost \$1,970.11 and the labor is estimated at \$1,134.00 per bottle refill station.

There are currently 13 water fountains in City Hall spread out throughout different locations. To have at least one water bottle refill station on each floor level, a minimum of four would need to be installed. We would recommend selecting the four most used water fountains per floor for a total cost of \$12,851.

CONCLUSION:

The following is presented to the Sustainability and Resiliency Committee for discussion and further direction.

ATTACHMENTS:

Description	Type
□ Attachment A: Water Bottle Refill Stations Proposal	Other

pipeline

plumbing * backflow * fire

certified contractors since 1976

tel 954 695 2430 toll free 888 922 5356
125 NW 13th st Suite # 5 Boca Raton, Fl. 33432
mybackflow@att.net

July 5, 2017

PROPOSAL

City of Miami Beach, Florida
1700 Convention Center Drive
Miami Beach, Fl.
33139
Attn: Mr. Adrian Morales

Facility: City Hall

Scope of completed work:

1. Supply and Install "Bottle Filler" Modification / Attachment to Four separate locations at City Hall.
2. The proposal includes the labor and the required items to convert the 4 existing bi-level water coolers. This conversion removes the "Standing Height" bubbler and leaves only the ADA Height bubbler. The current ADA Code requires there to be at least one "Standing Height" drinking fountain on each floor. Only the first floor will be without the "Standing Height" fountain.
3. Labor 18 hrs @ \$63.00 per hr\$1,134.00
4. Materials \$1,811.60 X's 8.75%.....\$1,970.11
5. Tax.....\$108.70

Proposed Amount EACH X's 4.....\$3,212.81
Total X's 4\$12,851.24

Frederick C Schilling Jr.
President / Master Plumber

Commissioner, Florida Building Commission
Appointed by Gov. Rick Scott

Member:
World Plumbing Council
American Society of Sanitary Engineering
American Backflow Prevention Assoc.
American Water Works Assoc.
American Society of Plumbing Engineers

Florida Plumbing License CFC1426324
Florida Fire Prevention Lic FPC13-000035
Florida Backflow Testing Lic 19190
Florida Backflow Repair Lic CES10BF0027

Item 4.
COMMITTEE MEMORANDUM

TO: Sustainability Resiliency Committee Meeting

FROM: Jimmy L. Morales, City Manager

DATE: July 19, 2017

SUBJECT: **DISCUSSION ON REQUIRING SUSTAINABILITY STANDARDS SIMILAR TO LEED FOR RETROFITS IN CITY-OWNED PROPERTIES**

RESPONSIBLE DEPARTMENT:

Flavia Tonioli, Sustainability Manager | Adrian Morales, Property Management Director

LEGISLATIVE TRACKING:

Item C4G - November 9, 2016 Commission Meeting

SPONSORED:

Commissioner Kristen Rosen-Gonzalez

BACKGROUND:

On November 9, 2016, the Mayor and City Commission referred a discussion to the Sustainability and Resiliency Committee (SRC) requiring sustainability standards similar to LEED (Leadership in Energy & Environmental Design) for retrofits in city-owned properties. This item was sponsored by Commissioner Kristen Rosen Gonzalez.

At the December 12, 2016 SRC, a motion was passed by acclamation directing staff to provide up to three municipal properties from which to select one that could be retrofitted with LEED upgrades in order to make it more sustainably sound.

On January 18, 2017, three municipal properties were presented to be potentially retrofitted with LEED upgrades: The Art Deco Welcome Center, South Shore Community Center, and Fire Station No. 3. These properties were selected based on their pressing needs for retrofits, exposure and community benefits. The SRC requested staff evaluate the costs associated to the potential pilot properties to be retrofitted and become LEED certified (LEED EBOM).

Analysis

Renovation, retrofit and refurbishment of existing buildings represent an opportunity to enhance the energy performance of building assets for their ongoing life. Often retrofits involve modifications to existing buildings that may improve energy efficiency or decrease energy demand. In addition, retrofits are often used as an opportune time to install distributed (energy) generation to a building.

The U.S. Green Building Council (USGBC) developed the LEED Green Building Rating System for Existing Buildings Operation and Maintenance (LEED-EBOM) with the intent to certify building operations and maintenance, and create a plan for ensuring high performance over time. The rating system captures both a building's physical systems (equipment, design, land use, etc.) and the way the

building is occupied and operated by its managers (waste management, energy management, commuting programs, etc.).

Before making what could result in a major investment for energy and sustainability improvements, it is important to determine if the investment is worthwhile in the context of the existing building conditions. Older buildings may not be structurally sound and certain retrofits could result in a significant expense for little return on investment. In buildings where retrofits will be worthwhile, those retrofits should follow LEED standards to improve building performance and reduce operations and maintenance costs.

At the request of the SRC, the Property Management Division requested a proposal (Attachment A) from one of the city's A/E rotational companies, Glavovic Studio, assessing the costs for retrofits to achieve LEED EBOM baseline certification for the three previously selected municipal properties: The Art Deco Welcome Center, South Shore Community Center, and Fire Station No. 3.

The Glavovic Studio proposal is presented in three phases:

Phase 1- Initial assessment and feasibility study;

Phase 2- Discovery period for attainable LEED credits (including charrettes and interviews with end users);

Phase 3- Recommendations including formal commissioning.

It should be noted that Glavovic Studio's proposal does not include the creation of permit drawings for any building modifications deemed necessary for baseline commissioning but does include review and coordination of permit drawings. The total cost for all three phases for the three properties is \$212,500. The cost per pilot is as follows: \$70,500 for The Art Deco Center, \$72,500 for the South Shore Community Center, and \$69,500 for the Fire Station 3.

Due to the high upfront investment required to obtain LEED EBOM certification, it is recommended instead engaging in a multi ESCO agreement to identify potential retrofit projects that can reduce municipal building energy consumption. ESCOs provide a broad range of energy solutions including design and implementation of energy savings projects, retrofits, energy conservation initiatives, energy outsourcing, power generation and supply, and risk management. Other cities and counties, such as Miami-Dade County and the City of Fort Lauderdale, have experienced greater benefit from having multiple ESCO agreements in place, rather than relying on only one ESCO.

The city is currently under a 13-year agreement with Ameresco which is being audited by the city's internal auditors. The Ameresco agreement is a complex contract and payments to Ameresco are based upon energy savings made from original capital invested by the city. Annual reports' figures are multifaceted and based on estimations made by Ameresco, which makes the audit a lengthy process.

This agreement was executed in 2010, and includes eight energy conservations measures with a total cost of \$14 million and a payback term (not include the interest associated with the financing) estimated at 11.1 years. Once the Ameresco audit is completed, the city will be able to determine whether it should continue with the current agreement and whether the projects covered by this agreement could overlap with the potential retrofit projects of a potential multi ESCO agreement. For this reason, it is recommended to have the results of the audit completed, prior to proceeding with potential multi Energy Service Company (ESCO) agreement. This recommendation was also provided for another item presented at SRC (Government buildings powered by 100% renewable electricity).

The current Energy Conservation Measures (ECMs) listed on the Ameresco agreement include Facility Lighting and Lighting Control Upgrades, Domestic Water Conservation, HVAC Controls, Geothermal Cooling (Police Station), Power Transformer Replacement, Geothermal Cooling (Convention Center-decommissioned), Chiller Plant Optimization, and District Cooling Plant. According to the agreement,

Ameresco shall have the right to install additional ECMs and to revise any procedures for the operation of the ECMs or implement other procedures at the premises which include most municipal buildings.

CONCLUSION

The following is presented to the members of the Sustainability and Resiliency Committee for discussion and further direction. Staff recommends the item to be deferred until the Ameresco audit is completed.

ATTACHMENTS:

Description	Type
□ Attachment A: Glavovic Studio Proposal	Other

Glavovic Studio

Architecture Art & Urban Design

1

Mr. Francisco Garcia
Construction Manager
City of Miami Beach
Property Management Department
1245 Michigan Avenue
City of Miami Beach, FL 33139

2017 0523

ARCHITECTURAL SERVICES AGREEMENT PROPOSAL: LEED Retrofit Pilot Program Draft 04

The three LEED Pilot projects proposed are as follows:

1. **South Shore Community Center, City of Miami Beach**
2. **Fire Station #3, City of Miami Beach, Limited**
3. **Art Deco Welcome Center, City of Miami Beach**

This agreement is made and entered into as of the March 10, 2017, by and between Glavovic Studio Inc., hereafter "ARCHITECT" and City of Miami Beach (hereinafter "CITY") to provide Architectural Services to meet the Florida Building Code and Authorities having Jurisdiction as per the City of Miami Beach Prime Contract signed on December 04, 2015.

AGREEMENT

Please find here Architectural, Engineering and LEED Consultant Services for further discussion and finalization. These include:

- An Overview of the LEED Process for USGBC LEED certification based on the limited information provided with associated LEED Consulting Fees.
- Architect Design Services for Prime to manage and coordinate these services. Fees are not fully established for all phases.
- A list of additional Consultant services that will be required within each phase.

The following steps are required for potential certification in the United States Green Building Council (USGBC) LEED for Existing Building Operations and Maintenance (EBOM) program. Site No. 1, the South Shore Community Center is a Multi-use / Assembly building owned and managed by The City of Miami Beach, No. 2, is a Fire Station Building owned and managed by the City of Miami Beach and Site No. 3 is a multipurpose building owned and managed by the City of Miami Beach.

One of the key components of a **LEED-EBOM** submission is the establishment of feasible sustainability goals for the Site. Some likely general goals include the following; specific sub-goals will be established during the performance of services.

724 NE 3 Avenue

Ft. Lauderdale, FL 33304

P 954 5245728

glavovicstudio.com

1. Reduced operating costs of the Site.
2. Reduced maintenance costs of the Site.
3. Improved energy efficiency and awareness of the energy performance of the Site.
4. Improved water efficiency and awareness of the water use of the Site.
5. Improved Indoor Environmental Quality.
6. Demonstrable improvements in overall sustainability (environmental, economic, and social) in the operations and maintenance of the Site.
7. Compliance with State requirements for “Green” and sustainable buildings.

Glavovic Studio Project Team proposes 3 Main Phases for the LEED Pilot Project(s):

Phase 01 – The LEED Project team, includes Architect, Glavovic Studio, Sustainability Consultant, Next Earth Design and Engineering Consultants, Mechanical, Electrical, Plumbing and other specialty Engineers to be determined.

In Phase 01, the Primary Project Team members, Glavovic Studio (GS) and Next Earth Design (NED) will evaluate the Building and Site to determine the feasibility of LEED EBOM certification and provide estimates of costs associated with baseline (Certified) certification levels achievable. During Phase 1 we will be meeting with key personnel from the City of Miami Beach knowledgeable of the building operation, construction and use is important for an accurate evaluation.

The first step is to benchmark the building for both Water and Energy Efficiency in accordance with the LEED prerequisites. NED’s Project Team includes an experienced Energy Rater.

The results of the Project Team’s evaluation will provide the Client information, recommendations and clear choices to make an informed decision if LEED EBOM certification is appropriate for this Site or if the pursuing alternative green programs would be better suited to the facility. Our team will determine the feasibility of LEED EBOM certification and provide estimates of costs associated with the various attainable certification levels once the minimum Energy efficiency rating of 19% above the national average is achieved. The energy performance rating of the building is vital to determine the project’s feasibility.

An ASHRAE Level I Energy Audit can be performed in this Phase to determine opportunities to improve the Energy rating if necessary. If a facility scores a 19% above the national average for high rise residential buildings or above, the ASHRAE Level I Energy Audit can be conducted by the facility manager incorporating the data collected during the Energy Model.

In conjunction with the timeframe of the LEED process evaluation, Glavovic Studio will participate in an analysis with the LEED Consultant to assess LEED credit options relative to architectural and design integration options relative to overall qualitative building goals. Glavovic Studio will work with the City to determine the qualitative aspects and significant architectural opportunities for each building, as well as coordinate with the City and additional consultants as required, so that a cohesive approach is identified.

At the end of Phase 01, the Client and Project Team will be able to define the Scope of Services and the Sustainability Goals for the Building more precisely, to move to the next phase.

Phase 2 begins with an approved Program and an EcoDesign-Charrette, or project Stakeholder meeting. The Stakeholder meeting will be conducted with City, User, Consultant and appropriate stakeholders to address the EBOM rating system scorecard and determine the project scope with the party(ies) directly responsible for the operational function pertaining to the different credits. Tenant representatives can be included in the Stakeholder meeting as a means of relating a formal understanding of the EBOM program goals and cultivating enthusiastic participation. The results of the Stakeholder meeting will provide the Project Team with the information necessary to make recommendations, provide a “road map” and timeline to credit pursuit, and present clear options to make an informed decision as to what level of LEED certification is appropriate for the building and to value engineer the most cost effective path toward sustainability and certification. NED and Glavovic Studio will issue a report to the Client with outcomes from each building Eco-Charrette. Non-LEED related questions and outcomes will also be tabulated at the Charrette.

Phase 3 is the coordination of CD’s and the EBOM project initiation which includes registering the project with the USGBC and facilitating an owner – tenant/occupant meeting. This is an informal meeting where decision makers from each tenant group/department are present and EBOM is explained as a program, and methodologies are discussed as to how EBOM will affect the site and operations. This meeting serves a three-fold purpose: to determine the interest and willingness of tenants/occupants to participate, provide tenants/occupants with a survey to collect critical data needed for the EBOM project, and to educate tenants/occupants on behaviors that may need to change; such as no smoking within 25 feet of the building entrance.

The following is a description of the scope of work and related fees for Phase I: The Energy rating and plumbing baseline assessment. Once the baseline assessment is completed NED will provide cost estimates for the completion of the certification process. The first two tasks to address the feasibility of achieving LEED for Existing Buildings Operations and Maintenance certification in the Energy and Atmosphere category are depicted in the Scope of Services.

SCOPE OF SERVICES

Phase 0I:

- A. Twelve months of all energy data associated with only the common areas of the building will need to be tabulated. This includes any fuel that may have been purchased for backup generators. The purpose of an evaluation of the Energy rating is to comprehensively and definitively address the building’s energy baseline status with regards to LEED. LEED requires a minimum energy performance calculation of 19% above the national average for high rise residential buildings based on an energy model for pursuit of certification.
- B. The next prerequisite of LEED to be benchmarked is the plumbing fixture and efficiency of the building’s plumbing systems in accordance with the 1992 Energy Policy Act. Building owner need to supply fixture data and/or fixture specifications sheets.
- C. From the benchmarking of the Energy and Water Systems, the next step is to identify which components of the existing operations will be an acceptable means of meeting the LEED EBOM requirements with or without changes to the building. If the building does not meet the required Energy model rating of 19% or better.
- D. Completion and submittal to the Client of the written LEED feasibility assessment summary report which will include an ASHRAE Level I audit report, and necessary documentation for the Energy and Atmosphere Best Management Practices prerequisite. The report will include recommendations to achieve prerequisites that have not been met if any are identified, and facility modifications necessary to meet LEED EBOM certification prerequisites.

E. Glavovic Studio Design and Coordination with Consultants.

Fees for the Phase I Scope of Services Glavovic Studio and Next Earth Design (Does not include Additional Consultants and final fee may change due to E. Scope not fully determined.)

Southshore Community Center	(18,730SF assumption)	\$8,000.00
Art Deco Welcome Center	(12,714SF assumption)	\$6,000.00
Fire Station No.3	(7,490SF assumption)	\$5,000.00

Exclusions from above fees:

Professional construction cost estimating, outside air testing by a Test and Balance Company, and services other than those provided in-house, product purchases, and USGBC related Certification fees are not included in this proposal. Does not include Additional Consultants to Glavovic Studio.

SCOPE OF SERVICES Phase II:

The EcoDesign-Charette (Stakeholder meeting) and subsequent reporting fees will be based on time and materials. A typical Stakeholder meeting lasts 3 to 4 hours and will include a formal report with a finalized project LEED EBOM targeted points summary, performance period schedule, and project timeline and a Design Narrative.

Fees for the Phase II Scope of Services Glavovic Studio and Next Earth Design

Southshore Community Center	(18,730SF assumption)	Glavovic Studio	\$2,500.00
		NextEarthDesign	\$2,000.00
Art Deco Welcome Center	(12,714SF assumption)	Glavovic Studio	\$2,500.00
		NextEarthDesign	\$2,000.00
Fire Station No.3	(7,490SF assumption)	Glavovic Studio	\$2,500.00
		NextEarthDesign	\$2,000.00

NOTE TO SCOPE OF SERVICES In this Phase, Glavovic Studio and Consultants will be developing Glavovic Studio Inc. will provide AE Services under separate contract and as stipulated in the Notice to Proceed. No Fee is provided here, to be determined. Further discussion required with the Client on this.

Glavovic Studio LEED Coordination FEE with LEED Consultant Services is included above.

SCOPE OF SERVICES Phase III: LEED EBOM Certification

This phase of the Certification is contingent upon the level of certification pursued as determined by the outcome of the Stakeholder meeting. A typical project costs between \$1,000 and \$1,750 per credit, excluding commissioning and energy audit credits which require Professional Engineering consulting. NED will populate all templates subject to Client approval, write required policies and procedures as needed, request and review pertinent data from Client and project Stakeholders, and submit all credit related documentation to LEED On-Line. Glavovic Studio Inc. will provide AE Services under separate contract.

SCOPE OF SERVICES Phase III: LEED Consulting Tasks:

1. Next Earth Design shall provide LEED Administration Services to include:
 - a. Registering the project with USGBC
 - b. Setting up LEED Online

- c. Assembling documentation for Credit submissions
 - d. Developing and maintaining LEED EBOM plan
 - e. Review of all construction documents that may be required during the performance period
- Construction Documents are not included in this Fee.

2. Provide guidance, education and oversight including the following as may be required:

Sustainable Sites

- a. Provide assistance as needed for the development of management plan to meet the requirements of SS Credit 1 - Site Development-Protect or Restore Habitat
- b. Perform calculations and submittals for SS Credit 2 - Rainwater Management
- c. Provide calculations and assistance as needed for credit submission of SS credit 3 –Heat Island Reduction
- d. Provide assistance as needed for SS credit 4 – Light Pollution Reduction
- e. Assist with calculations for SS Credit 5 – Site Management.
- f. Provide assistance as needed for SS Credit 6 – Site Improvement Plan

Water Efficiency

- a. Analyze potable water usage for building including sinks, showers toilets and urinals. Analysis includes baseline analysis for WE Prerequisite 1 Indoor Water Use Efficiency. The baseline analysis will also be carried forward for use in WE Credit 2
- b. Indoor Water Use Reduction
- c. Provide assistance as needed and review for irrigation calculations for WE Credit 1 -Outdoor Water Use
- d. Develop and implement a water management plan for the cooling tower that addresses chemical treatment, bleed-off, biological control and staff training as it relates to cooling tower maintenance (if applicable).

Energy and Atmosphere

- a. Provide Engineering services to meet the requirements of EA Prerequisite 1 and 2 to include:
- b. Document the current sequence of operations for the building.
- c. Develop a building operating plan that provides details on how the building is to be operated and maintained. The operating plan must include, at a minimum, an occupancy schedule, equipment run-time schedule, design set points for all HVAC equipment, and design lighting levels throughout the building. Identify any changes in schedules or set points for different seasons, days of the week and times of day. Validate that the operating plan has been met during the performance period.

- d. Develop a systems narrative that briefly describes the mechanical and electrical systems and equipment in the building. The systems narrative must include all the systems used to meet the operating conditions stated in the operating plan, including at minimum, heating, cooling, ventilation, lighting and any building controls systems.
- e. Create a narrative of the preventive maintenance plan for equipment described in the systems narrative and document the preventive maintenance schedule during the performance period.
- f. Provide services to document compliance with Refrigerant Management prerequisite 4.
- g. Conduct an energy audit that meets the requirements of American Society of Heating, Refrigerating and Air- Conditioning Engineers (ASHRAE), Level II, Energy Survey and Analysis.
- h. Work with Staff to implement no- or low-cost operational improvements and create a capital plan for major retrofits or upgrades. Provide training for management staff that builds awareness and skills in a broad range of sustainable building operations topics. This could include energy efficiency and building, equipment and systems operations and maintenance. Demonstrate the observed and/or anticipated financial costs and benefits of measures that have been implemented. Update the building operating plan as necessary to reflect any changes in the occupancy schedule, equipment runtime schedule, design set points and lighting levels.
- i. Provide guidance for program development for EA Credits 3.1, 3.2 and 3.3 Buildings Operation and Maintenance.
- j. Provide required calculations and pricing for decision making on Renewable Energy Credit Purchase
- k. Provide guidance for refrigerant selection for Enhanced Refrigerant Management

Materials and Resources

- a. Provide program development guidance for source reduction for MR Prerequisites 1 and 2 including plan development
- b. Provide assistance as needed Maintain a sustainable purchasing program covering materials with a low cost per unit that are regularly used and replaced through the course of business.
- c. Provide assistance as needed for the developing purchasing plan
- d. Provide assistance as needed to conduct a waste stream audit of the building's entire ongoing consumables waste stream (not durable goods or construction waste for facility alterations and additions). Use the audit's results to establish a baseline that identifies the types of waste making up the waste stream and the amounts of each type by weight or volume. Identify opportunities for increased recycling and waste diversion
- e. Aid as needed to maintain a waste reduction and recycling program

Indoor Environmental Quality

- a. Provide assistance as needed in documenting minimum ventilation rates for EA Prerequisite 1
- b. Provide assistance as needed in attaining documenting Environmental Smoke Prereq.2
- c. Provide assistance as needed for compliance with Green Cleaning Policy
- d. Provide assistance as needed for the development of comprehensive IAQ plan
- e. Provide assistance as needed for the development occupant comfort survey, implementing and documenting results.
- f. Perform calculations for controllability of systems for interior lighting
- g. Provide assistance as needed on temperature and humidity monitoring systems for Thermal Comfort
- h. Provide assistance as needed for Custodial Effectiveness Assessment

Phase III Cost (for Certified level – 42 points)

Southshore Community Center	(18,730SF assumption)	\$60,000.00
Art Deco Welcome Center	(12,714SF assumption)	\$60,000.00
Fire Station No.3	(7,490SF assumption)	\$60,000.00

This Fee includes Glavovic Studio Coordination for LEED services with LEED Consultant and the City of Miami Beach. This contract does not represent a guarantee of LEED Certification with the USGBC or the attainment of a certain LEED Certification Level. Many factors go into a facility becoming LEED Certified. Glavovic Studio Project Team will use all due diligence to assist the client in achieving LEED Certification.

IN WITNESS WHEREOF, the authorized representatives of the parties hereto have executed this Agreement effective as of the date first above written.

Company: **Glavovic Studio Inc.**

Company: **City of Miami Beach**

Signed By:



Signed By:

Name/ Title: Margi Nothard, President

Name/ Title:

Glavovic Studio Inc.

City of Miami Beach

Signed By:



Name/Title: Terence O'Connor, Vice President/RA
Glavovic Studio Inc.

This Contract Proposal is subject to the Prime Agreement approved by the City Commission and dated 12.04.2015 and by Appendix A (Attached)

ATTACHMENT A

SPECIAL CONDITIONS TO THE AGREEMENT

Professional Architecture Services

Dispute Resolution:

Any claims or disputes made during design, construction, or post-construction between the Client and Glavovic Studio shall be submitted to nonbinding mediation. The Client and Glavovic Studio agree to include a similar mediation agreement with all contractors, subcontractors, subconsultants, suppliers and fabricators, thereby providing for mediation as the primary method for dispute resolution between all parties if applicable.

COMPENSATION, INVOICES AND PAYMENT:

Glavovic Studio Inc shall submit invoices to the Client for work accomplished during each calendar month. Invoices shall be due and payable by the Client upon receipt. If the Client defaults on such payment, the Client agrees to pay all costs of collection, including reasonable attorney's fees, regardless of whether legal action is initiated. The Client hereby acknowledges that unpaid invoices shall accrue interest at 18% per annum after they have been unpaid 30 days after client receives the invoice. Work on the project shall be suspended until all unpaid invoices are paid in full.

For services provided on a Lump Sum basis, the amount of each monthly invoice shall be determined on the "percentage of completion method" whereby Glavovic Studio Inc. will estimate the percentage of the total work (provided on a Lump Sum basis) accomplished during the invoicing period.

Indemnification:

The Client shall, to the fullest extent permitted by law, indemnify and hold harmless Glavovic Studio, its officers, directors, employees, agents and subconsultants from and against all damage, liability and cost, including reasonable attorney's fees and defense costs, arising out of or in any way connected with the performance by any of the parties above named of the services under this agreement, excepting only those damages, liabilities or costs attributable to the sole negligence or willful misconduct of Glavovic Studio. Any such liabilities attributable to Glavovic Studio are limited to a maximum dollar amount equal to the total of Glavovic Studio's fee for the project.

LIMIT OF LIABILITY: The Client agrees that the total aggregate of liability of Glavovic Studio Inc., its employees and professionals assigned to this project due to the errors, omissions, or negligent acts shall not exceed the total fee for services rendered by Glavovic Studio Inc for this project. Should the Client find the above terms unacceptable, then, prior to undertaking the work, an equitable surcharge to absorb Glavovic Studio Inc's increase in insurance premiums will be negotiated. In the event that the Services provided entails Glavovic Studio Inc subcontracting or acting as coordinator with third parties brought in by the client Glavovic Studio Inc will not be liable in respect of any shortcomings of these third parties unless Glavovic Studio Inc has expressly accepted liability in this regard.

COST ESTIMATES: Client hereby acknowledges that Glavovic Studio Inc cannot warrant that estimates of probable construction or operating costs provided by Glavovic Studio Inc will not vary from actual costs incurred by the Client.

CONSTRUCTION SERVICES: If, under this Agreement, professional services are provided during the construction phase of the project, Glavovic Studio Inc shall not be responsible for or have control over means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work; nor shall Glavovic Studio Inc be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents or for Contractor's failure to comply with applicable laws, ordinances, rules or regulations.

Certifications:

Neither Glavovic Studio, nor its Consultants shall be required to execute any document that would result in its certifying, guaranteeing or warranting the existence of conditions whose existence Glavovic Studio cannot ascertain. This includes, but is not limited to existing building conditions that cannot be known or verified without demolition or destructive investigation.

ASSIGNMENT: Neither the Client nor Glavovic Studio Inc. will assign or transfer its interest in this Agreement without the written consent of the other.

Ownership of Documents:

All documents, ideas and concepts embedded within and produced for this project (including electronic files) by Glavovic Studio Inc. and it's Consultants under this agreement shall remain the property of Glavovic Studio Inc. and may not be used by the Client or any of the Client's other consultants, contractors, etc., for any other endeavor without the signed and written consent of Glavovic Studio Inc.

Consequential Damages:

Notwithstanding any other provision of this Agreement, neither party shall be liable to the other for any consequential damages incurred due to the fault of the other party, regardless of the nature of this fault or whether it was committed by the Client or by Glavovic Studio Inc., their employees, agents, subconsultants or subcontractors. Consequential damages include, but are not limited to, loss of use and loss of profit.

CONFIDENTIALITY/PROMOTIONS: Glavovic Studio Inc. shall have the right to include representations of the design of the Project, including photographs among its promotional and professional materials. Glavovic Studio Inc.'s materials shall not include the Client's confidential or proprietary information if the Client has previously advised Glavovic Studio Inc. in writing of the specific information considered by the Client to be confidential or proprietary.

STAFFING: The Client agrees not to solicit or hire employees from Glavovic Studio Inc. during the term of the Agreement and for a period of no less than one (1) year after the termination of the services provided herein.

STANDARD OF PERFORMANCE: Services performed by Glavovic Studio Inc. and its employees under this Agreement will be the care and skill ordinarily used by members of the profession practicing under the same or similar circumstances at the same time in the same locality. Glavovic Studio Inc. makes no warranties, expressed or implied, under this Agreement or otherwise, in connection with Glavovic Studio Inc's services.

Hazardous Materials: THE SCOPE OF WORK UNDER THIS CONTRACT DOES NOT REQUIRE GLAVOVIC STUDIO (GS) TO PERFORM HAZARDOUS WASTE SITE INVESTIGATIONS. IN THE EVENT GS ENCOUNTERS ANY HAZARDOUS OR TOXIC MATERIAL IN THE PERFORMANCE OF THIS CONTRACT

AND WHICH WERE NOT INTRODUCED TO THE SITE BY GS, GS SHALL STOP ALL WORK UNTIL SUCH MATERIAL IS REMOVED BY THE CLIENT AND THE SITE MADE SAFE. GS SHALL HAVE NO OBLIGATION, RESPONSIBILITY OR LIABILITY WITH RESPECT TO SUCH MATERIALS.

ARBITRATION: Claims, disputes or other matters in question between the parties to this Agreement arising out of or relating to this Agreements or breach thereof shall be subject to and decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect unless the parties mutually agree otherwise.

Item 5.
COMMITTEE MEMORANDUM

TO: Sustainability Resiliency Committee Meeting

FROM: Jimmy L. Morales, City Manager

DATE: July 19, 2017

SUBJECT: **DISCUSSION ON PAINTING BLACK TAR ROOFS OF CITY BUILDINGS WHITE**

RESPONSIBLE DEPARTMENT:

Flavia Tonioli, Sustainability Manager

LEGISLATIVE TRACKING:

Item C4E - June 28, 2017 Commission Meeting

SPONSORED:

Commissioner Kristen Rosen-Gonzalez

BACKGROUND:

At the City Commission meeting on June 28, 2017, the Mayor and City Commission referred a discussion to the Sustainability and Resiliency Committee (SRC) to consider painting black tar roofs of city buildings white. This item was sponsored by Commissioner Kristen Rosen Gonzalez.

The City of Miami Beach is continuously working to mitigate the effects of climate change, including reducing greenhouse gas (GHG) emissions from our community and government operations. One GHG emissions reduction initiative is promoting sustainable and environmentally friendly design and construction.

As part of these efforts, the City of Miami Beach recently adopted a sustainable roofing ordinance which incentivizes and facilitates the installation of solar roofs, blue roofs, cool roofs, green roofs, and other roofing systems that will reduce the heat island effect, allow reuse or retention of stormwater, or reduce greenhouse gases to be used in the city.

In addition, last year, the city adopted a green building ordinance requiring new construction over 7,000 square feet to obtain LEED Gold or Living Building Challenge certification. Part of the credits required to obtain these certifications include heat island reduction, optimizing energy performance and thermal comfort. For example, a project can receive up to 2 points for LEED certification for heat island reduction by installing a roof meeting a certain initial solar reflectance index (SRI) or 3-year aged SRI value. The SRI is the measure of a material's ability to reflect solar heat.

Analysis

A white roof is any roof that is painted with a white coating or made of a white-colored material. A white roof is often referred to as a cool roof because the high SRI leads to a lower roof temperature. Most studies demonstrate that cool or white roofs reduce roof surface temperatures, lower electricity consumption for the building and reduce the heat island effect.

A cool roof reflects more sunlight and absorbs less heat than a standard roof. This allows for a cooler rooftop surface and less heat being transferred into the building. In turn, less cooling is needed which lowers electricity consumption and reduces the building's GHG emissions. The amount of energy savings depends on the local weather so colder climates would only experience energy savings during warm months. In South Florida, where most of the year is spent cooling our buildings, cool roofs could provide energy savings virtually year-round.

According to the U.S. Environmental Protection Agency (EPA), a cool roof can reduce the roof surface temperature by 55 degrees Fahrenheit on average during peak summer temperature and lower cooling costs by 20 percent. Other studies point to less beneficial and unintended consequences results from its use. A study by Stanford University found that cool roofs reduced cloudiness which allowed more sunlight to reach the ground and a study by the National Center for Atmospheric Research found that the positive effects of cool roofs in the summer are offset by a negative effect in the winter when less heat is absorbed by the roof. Overall, scientists agree the benefits of a white roof are dependent on the location of the buildings on which they are used.

A project launched in 2009 by New York City called 'NYC CoolRoofs' has gathered volunteers to paint black roofs white. The 'NYC CoolRoofs' program has received cash and in-kind donations from 16 corporate partners which have also provided volunteers who participated in roof coatings. As of 2015, more than 5.7 million square feet of rooftops had been painted white. They estimate that every 2,500 feet of roof that is painted white can reduce their city's carbon footprint by 1 ton of CO₂ each year.

The City of Phoenix launched a 'Cool Roofs' initiative in 2013. The goal of the initiative is to coat 70,000 square feet of municipal roof tops to reduce GHG emissions by 70 tons. Between 2006 and 2013, they coated 30 city building roof tops with white paint. An assessment of residential neighborhoods found that cool roofs reduced neighborhood air temperatures by 0.54 degrees Fahrenheit.

The 'Miami-Dade County Libraries Daylight Cool Roof Retrofit Project' was developed in 2009 in order to help the County decrease GHG emissions, reduce energy consumption and air pollution. The County replaced the existing roof at Homestead Library with a high-reflective cool roof system, substantially reducing energy use by 10.4 percent.

There are a few white, reflective roof coatings available on the market, some offering mildew and stain resistance properties. Two main options in white coatings are silicone coatings and water based coatings. Silicone coatings are a higher quality product and require less re-application over time to maintain the cooling benefits. Water based coatings require more maintenance over time due to the damaging effect that pooling water has on them. A 5 gallon tub of coating costs between \$60 and \$110, depending on the quality of the coating selected. One gallon of coating covers between 50 and 75 square feet of roofing. Most coatings require multiple coats to be applied to obtain maximum benefits.

The cost to paint one of the city's roofs white depends on the condition of the current roof, amongst other factors such as labor and material costs. Factors to consider include the condition of the flashings, a moisture survey of the insulation system, and any upgrades needed to restore system. The average cost to coat an existing system (granulated or smooth built-up) would be between \$2.5 and \$7 per square foot, depending on the labor and initial work involved in preparing the roof for coating.

Several municipal buildings are currently going through restoration and present an opportunity to transition to a white roof. For example, some of the Fire Stations roofs have been recently restored and painted white. The City Hall roof will be undergoing restoration within the next months and will also be painted white.

CONCLUSION

The following is presented to the members of the Sustainability and Resiliency Committee for discussion and further direction.

ATTACHMENTS:

Description

Type

No Attachments Available

MIAMI BEACH

Item 6.
COMMITTEE MEMORANDUM

TO: Sustainability Resiliency Committee Meeting

FROM: Jimmy L. Morales, City Manager

DATE: July 19, 2017

SUBJECT: **DISCUSSION ON ALTERNATIVES TO PLASTIC WARE IN BEACH CONCESSIONS**

RESPONSIBLE DEPARTMENT:

John Ripple, Beach Management Director | Mark Millisits, Asset Manager

LEGISLATIVE TRACKING:

Item R7E - May 11, 2016

SPONSORED:

Commissioner Michael Grieco

Analysis

Verbal Report at Committee Meeting.

ATTACHMENTS:

Description

Type

No Attachments Available

MIAMI BEACH

Item 7.
COMMITTEE MEMORANDUM

TO: Sustainability Resiliency Committee Meeting

FROM: Jimmy L. Morales, City Manager

DATE: July 19, 2017

SUBJECT: **DISCUSSION ON RECEIVING AN UPDATE REGARDING CITY ACTION AND
FINES GIVEN TO GARBAGE OPERATORS FOR LEAKING TRUCKS**

RESPONSIBLE DEPARTMENT:

Sarah Saunders, Code Compliance Manager | Al Zamora, Sanitation Director

LEGISLATIVE TRACKING:

Item C4C - March 1, 207 Commission Meeting

SPONSORED:

Commissioner John Elizabeth Aleman

Analysis

Verbal Report at Committee Meeting.

ATTACHMENTS:

Description

Type

No Attachments Available

MIAMI BEACH

Item 8.

COMMITTEE MEMORANDUM

TO: Sustainability and Resiliency Committee

FROM: Jimmy L. Morales, City Manager

DATE: July 19, 2017

SUBJECT: **MAYOR'S BLUE RIBBON PANEL ON FLOODING AND SEA LEVEL RISE**

RESPONSIBLE DEPARTMENT:

Eric Carpenter, Assistant City Manager

Analysis

Report of the May 16, 2017 Mayor's Blue Ribbon Panel on Flooding and Sea Level Rise meeting.

ATTACHMENTS:

Description	Type
□ Minutes 05.16.17	Other

**Mayor's Blue Ribbon Panel on Sea Level Rise
MEETING MINUTES - Draft
May 16, 2017 - 11:00 a.m.**

A meeting of the Mayor's Blue Ribbon Panel on Sea Level Rise was held Tuesday, May 16, 2017, 11:00 a.m. in the City Manager's Large Conference Room, 4th floor, Miami Beach City Hall.

Panel Members Present: Wyn Bradley and Michael De Filippi

The meeting was called to order by Wyn Bradley. It was m/s/p to accept the minutes as submitted from the meeting held April 18, 2017.

Project Review – Public Works Department and CIP – Dr. Bruce Mowry, City Engineer, began by displaying a map to discuss areas around the City involving elevations on existing seawalls both public and private. He also updated the panel on the pump station that's at the Convention Center which is in process of completion but there is one issue with FPL to generate permanent power to the pump station. Dr. Mowry then touched basis on the process of the street being raised/elevated on Alton Road and 11th Street and also the completion of the pipeline that's on 17th Street and Washington Avenue where the pipeline is connected. He also, mentioned Indian Creek Drive, moving of the pipeline above 26th Street and is installing a new one (joint project with FDOT) and finalizing South of 5th Neighborhood Association Project. In conclusion, Dr. Mowry mentioned a list of updated on pump stations and projects throughout the City with construction updates. Francisco D'Elia, GIS Analysts, was granted a scholarship with Global Impact Challenge at Singularity University for nine weeks at the NASA Research Center in California.

David Martinez, CIP Director, gave an update of projects on Sunset Islands 3 & 4, Palm & Hibiscus Islands, Central Bayshore South, Venetian Islands, West Avenue, and Stormwater Pump Station at 19th Street to give the panel of end construction dates.

Eric Carpenter, Public Works Director/ACM, mentioned about the elevation calculator went live last week on the City's website.

Open House – Amy Knowles, Deputy Resiliency Officer, discussed the dates for the open house for the month of June on Sea Level Science, Understanding Elevations, Engineers at Work, and The Mysteries on Flood Insurance. Mr. Michael De Filippi requested a LTC on Sustainability referral on solar creating fountains on Sunset Harbour and 20th Street.

Work Plan Update – Amy Knowles, Deputy Resiliency Officer, distributed an updated Draft Work Plan where Margarita Wells, Environment Sustainability Director, and Elizabeth Wheaton, Chief of Staff discussed and gave updates on the various work plans.

Land Development Regulation Draft Amendments (Commercial Properties) – Thomas Mooney, Planning Department gave status updates on four ordinances where Mr. Rogelio Madan, Chief of Community Planning and Sustainability, briefly went through the ordinances on reducing parking requirements. A motion of referral on draft parking to recommend on the June 7th commission meeting was approved by Mr. Michael De Filippi as Commissioner Malakoff as the sponsor.

The Meeting was adjourned at 1:00 p.m. The next meeting date was set for Tuesday, June 20, 2017 in the City Manager's Large Conference Room, 4th floor, Miami Beach City Hall.

MIAMI BEACH

Item 9.
COMMITTEE MEMORANDUM

TO: Sustainability and Resiliency Committee

FROM: Jimmy L. Morales, City Manager

DATE: July 19, 2017

SUBJECT: **SUSTAINABILITY COMMITTEE**

RESPONSIBLE DEPARTMENT:

Dave Doeblen, Chair

Analysis

Verbal report of the May 30, 2017 and June 27, 2017 Sustainability Committee meetings.

ATTACHMENTS:

Description		Type
□	Attachment A: May 30 2017 Minutes	Other
□	Attachment B: June 27 2017 Minutes	Other



City of Miami Beach, 1700 Convention Center Drive, Miami Beach, Florida 33139, www.miamibeachfl.gov

Sustainability Committee Chairperson

David Doeblar – Appointed by Commissioner Micky Steinberg

Members of the Sustainability Committee

Steve Vincenti – Appointed by Commissioner Michael Grieco

Nancy Bernstein – Appointed by Mayor Philip Levine

Michael DeFilippi – Appointed by Commissioner Ricky Arriola

Cheryl Jacobs – Appointed by Commissioner Joy Malakoff

Richard Conlin – Appointed by Commissioner Kristen Rosen-Gonzalez

Scott Diffenderfer – Appointed by Commissioner John Elizabeth Aleman

DATE: May 30, 2017

SUBJECT: **MINUTES OF THE SUSTAINABILITY COMMITTEE MEETING OF MAY 30, 2017**

The attendees were as follows: Dave Doeblar, Nancy Bernstein, Scott Diffenderfer, Cheryl Jacobs, Steve Vincenti, and Michael DeFilippi.

City Staff: Al Zamora, Sanitation Division Director, Jennifer Seoanes, Marketing Manager ; Flavia Tonioli, Sustainability Manager; and Yanira Pineda, Sustainability Specialist.

Members Absent: Richard Conlin

1. Minutes

MOTION: Motion to approve the April 25, 2017 Sustainability Committee meeting minutes made by Ms. Cheryl Jacobs, seconded by Ms. Nancy Bernstein.

2. SRC

- a. Updates for Sustainability and Resiliency Committee meeting on May 10, 2017 were provided by Mr. Dave Doeblar

3. Sustainability Committee Work Plan

a. New Business

- i. 2017 items.

A) WASTE MANAGEMENT & LITTER

- Unified branding and messaging for waste and recycling dumpsters - Mr. Doeblar presented the item. He explained to the Committee that residents and businesses have trouble differentiating waste and recycling dumpsters. He further added that effective messaging and identification on waste bins can be accomplished through unified coloring, multilingual phrasing, as well as detailed stickers that depict what can and cannot be recycled. Mr. Doeblar presented a proposal requesting that the city mandate unified coloring and messaging on all new bins. His proposal included the following elements:
 - a. The City of Miami Beach should work in partnership with the

franchisee waste haulers to develop a solution that increases education, improves recycling rates and reduces contamination;

- b. The City of Miami Beach should mandate unified color and messaging on all newly purchased bins (not retroactive) in contract;
- c. The City of Miami Beach should design appropriate visual graphics / labels to be used city wide;
- d. Either the City of Miami Beach or the franchisee waste haulers must print appropriate visual labels;
- e. The City of Miami Beach or the franchisee waste haulers must install labels on all cans on all sides to achieve agreed upon consistency.

Mr. Jason Neal, Government Affairs Director with Waste Management explained that there is approximately a 35% contamination rate in most bins. He added that despite past attempts at uniformed messaging, the contamination between recyclables and trash persisted. **MOTION:** The Sustainability Committee supports efforts from the City of Miami Beach to collaborate with the franchisee waste haulers on implementing the proposal on unified coloring and messaging for new waste and recycling dumpsters. Motion made by Ms. Cheryl Jacobs, seconded by Mr. Steve Vicenti.

- Waste Management accountability for litter – Mr. Dave Doeblen and Mr. Michael DeFilippi expressed concerns on the waste hauler's accountability for litter. Mr. DeFilippi inquired on whether waste hauler employees were trained and responsible as well as expected to pick up any of the trash or litter that falls out of waste trucks during operation. Mr. DeFilippi added that he has witnessed trucks accidentally dropping trash on the ground during pick up operations. Mr. Neal explained that one of the biggest causes of litter and spillage from the trucks is due to overloaded containers. Mr. Neal stated that workers are required by the code to pick up trash spillage and it is enforced by Waste Management.
- Citizen voluntary service program ("mind your block") – Mr. Dave Doeblen presented the item. He explained that the concept is to improve the community by having residents participate in clean ups as well as provide overall maintenance of their corresponding neighborhoods. He added that this should be a voluntary program that helps maintain the environment with monthly clean ups organized by the city. Ms. Yanira Pineda, Sustainability Specialist, mentioned that the city recently joined the "Next Door" app, which serves as forum for verified residents and provides them with an opportunity to communicate with other residents. She explained that the "mind your block" initiative can be spearheaded directly by residents through the use of this application.

C) UPDATES

- Ms. Flavia Tonioli, Sustainability Manager, provided an update on the previous Commission meeting. Ms. Tonioli mentioned the Mayor's proclamation to support 100Ready Sierra Club initiative for 100% clean energy. She explained that the Mayor is in support of calling other cities to participate in becoming 100% renewable by 2050. Commissioner Rosen-Gonzalez sponsored a referral to the June Sustainability and Resiliency Committee to discuss the possibility of having municipal buildings powered by 100% renewable energy.
- Cigarette Butt Receptacles - Mr. Doeblen provided an update on the City's partnership with Surfrider on designing the messaging for the receptacles. He added that they are developing draft ideas based on examples from other cities and will present them to communications for approval.
- Ms. Pineda mentioned that during the last Sustainability Committee meeting, the committee demonstrated interest in having a youth committee member. The Clerk's Office advised that in order for there to be a youth committee

member, the committee would have to pass a motion requesting that a resolution be drafted to revise the ordinance to allow for a youth member to participate. Ms. Nancy Bernstein suggested that staff inquire with on whether a youth committee member can be added if they are a non-voting member.

4. Next Meeting

- a. June 27, 2017.



City of Miami Beach, 1700 Convention Center Drive, Miami Beach, Florida 33139, www.miamibeachfl.gov

Sustainability Committee Chairperson

David Doeblen – Appointed by Commissioner Micky Steinberg

Members of the Sustainability Committee

Steve Vincenti – Appointed by Commissioner Michael Grieco

Nancy Bernstein – Appointed by Mayor Philip Levine

Michael DeFilippi – Appointed by Commissioner Ricky Arriola

Cheryl Jacobs – Appointed by Commissioner Joy Malakoff

Richard Conlin – Appointed by Commissioner Kristen Rosen-Gonzalez

Scott Diffenderfer – Appointed by Commissioner John Elizabeth Aleman

DATE: June 27, 2017

SUBJECT: **MINUTES OF THE SUSTAINABILITY COMMITTEE MEETING OF JUNE 27, 2017**

The attendees were as follows: Dave Doeblen, Scott Diffenderfer, Steve Vincenti, and Michael DeFilippi.

City Staff: Elizabeth Wheaton, Mayor's Chief of Staff; Flavia Tonioli, Sustainability Manager; and Yanira Pineda, Sustainability Specialist; Samantha Barrios, Executive Assistant.

Members Absent: Nancy Bernstein, Cheryl Jacobs, and Richard Conlin

1. Minutes

MOTION: Motion to approve the May 30, 2017 Sustainability Committee meeting minutes made by Mr. Michael DeFilippi, seconded by Mr. Steve Vincenti.

2. SRC

- a. Updates for Sustainability and Resiliency Committee meeting on June 14, 2017 were provided. Ms. Flavia Tonioli, Sustainability Manager explained that at the last SRC meeting that the committee requested for a cost estimate on the installation of water bottle refill stations within the City Hall building.

MOTION: The Sustainability Committee recommends the Sustainability and Resiliency Committee support the allocation of funding during FY17/18 for the replacement 50 existing water fountains with water bottle refill stations throughout the City of Miami Beach. Motion made by Mr. Michael DeFilippi, seconded by Mr. Steve Vincenti.

3. Sustainability Committee Work Plan

a. New Business

- i. 2017 items.

A) Energy

- Florida Solar United Neighborhoods (FL SUN) Co-Op – Maggie Fernandez, President of Sustainable Miami presented the item. She explained the Florida Solar United Neighborhoods in partnership with the League of

Women Voters, expands access to solar by organizing groups of neighbors across Florida to form cooperatives (co-ops) to get discounts on members' individual purchase of solar systems for their homes. This discount averages between 15-20%. She added that co-ops are being successfully implemented in Broward, Sarasota, Orange, and Alachua counties. In Miami-Dade, the goal is to facilitate the installation of at least 350 residential solar systems through the use of the six cooperatives, for an estimated 3.2MW of installed solar capacity. This is estimated to facilitate \$8,000,000 in local solar investments. She estimated having this opportunity available for Miami Beach in 2018. Mr. Dave Doeblor, Chair, suggested bringing back this item in the future as the date for Miami Beach to participate gets closer. This will allow the committee and the City of Miami Beach to properly advertise the program without losing momentum or interest.

C) UPDATES

- Ms. Elizabeth Wheaton, Mayor's Chief of Staff, provided an update on the outcome of the 2017 U.S. Conference of Mayors. She explained that the conference had over 1800 attendees and 300 mayors present from both the U.S. and Latin America. Ms. Wheaton added the conference was focused on discussing policies that would then be presented to congress. This year's sessions were focused on both climate change and resilience which included the following highlights:
 - a. Mayor Stephen K. Benjamin of Columbia, South Carolina, along with the Sierra Club initiated a resolution for cities to commit to 100% renewable energy by 2050. This resolution was passed by the Energy Committee and will be sent to congress.
 - b. Mayor Eric Garcetti of Los Angeles, California, brought other mayors together to sign the Mayor's Climate Pledge. Although Miami Beach is already committed, this served as an opportunity for other mayors to come onboard.
 - c. A press conference and a tour of Sunset Harbour were held to showcase our adaptation efforts to Mayor Bill De Blasio of New York, New York.

Ms. Wheaton concluded that the 100 % renewable energy campaign will continue being developed internally by the Sustainability Division. This will also tie into the development of the Climate Action Plan which will be used for setting targets and goals on how the city will reach 100% renewable energy.

4. Next Meeting

- a. September 26, 2017.

MIAMI BEACH

Item 10.
COMMITTEE MEMORANDUM

TO: Sustainability and Resiliency Committee

FROM: Jimmy L. Morales, City Manager

DATE: July 19, 2017

SUBJECT: **RESILIENCY STRATEGY**

RESPONSIBLE DEPARTMENT:

Amy Knowles, Deputy Resiliency Officer

Analysis

Verbal Report at Committee Meeting.

ATTACHMENTS:

Description

Type

No Attachments Available