


# Memorandum



**Date:** June 18, 2013

**To:** Honorable Chairwoman Rebeca Sosa  
and Members, Board of County Commissioners

**From:** Carlos A. Gimenez  
Mayor 

**Subject:** Report on the Feasibility of Implementing Security Devices for Copper Wire and Scrap Metal Theft Prevention

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## Background

The theft of copper wiring continues to be a problem for many agencies throughout the State of Florida and the country, as copper wiring is stolen from electrical systems and resold to scrap metal facilities. Over the past several years the Public Works and Waste Management Department (PWWM) has been affected by the theft of copper wiring from the County's roadway lighting systems.

## Street Light Maintenance Contracts

Currently, the County has two (2) active Street Lighting Maintenance Contracts, and is in the process of procuring four (4) replacement contracts as follows:

- Project #20100407 with Prime Electrical Contractors, Inc. – This is a MCC7040 CSBE Set-Aside Contract for the maintenance of 2,931 street lights in the Northeast portion of the County. This Contract was awarded for a three (3) year term, for a total amount of \$668,359.38, and runs through July 31, 2013.
- Project #20100408 with Horsepower Electric, Inc. (HPE) - This is a Capital Contract for the maintenance for 22,135 street lights throughout the County. This contract was originally bid for 20,050 Street lights, but as a result of new projects an additional 2,085 street lights were added to the County's streetlight network, and subsequently to this Contract. The scope of work for this Contract includes a provision requiring that the contractor repair any damage associated with acts of vandalism, at no cost to the County, including re-wiring if using copper wiring. This Contract was awarded for a three (3) year term, for a total amount of \$4,924,202.36 (including \$827,290.68 through Change Order), and runs through August 31, 2013. The Change Order approved under Resolution No R-1023-12 added monies to cover the maintenance of the additional lights, the costs of retrofitting with alternate anti-theft devices at the direction of the County, and to address pre-existing vandalism and damage to the streetlight system that occurred during the six (6) month period between the effective dates of the maintenance contracts.

Currently two (2) contracts have been advertised, with bids scheduled to be received by the end of this month. These contracts are set-aside for Community Small Business Enterprise firms through the MCC 7040 Program, and represent approximately 25% of the total street lights under the County's maintenance purview. The balance of street lights are to be included in two (2) additional maintenance contracts which will be competitively bid through the MCC 7360 Program. All four (4) new contracts are scheduled to be in effect to coincide with the expiration of the current contracts. The new contracts keep the responsibility to address acts of vandalism on the awarded contractor, and will include provisions to require the replacement of copper wiring with aluminum wiring upon the instance of vandalism, at no additional cost to the County.

### **Vandalism of Roadway Lighting System**

In an effort to address the continued vandalism of the County's roadway lighting system, PWWM implemented a number of anti-theft solutions through the services of the existing maintenance contracts. In 2009, the County began retrofitting the lighting system's pull boxes with lids which used military grade locks to secure them in place. These worked for a period, until thieves discovered they could bypass the locks by breaking through the lids. In response, the County employed high strength polymer lids with the locks. However, this solution ultimately proved ineffective once perpetrators began breaking not only the pull boxes themselves but the concrete sidewalks surrounding them.

In late 2010, the County took the initiative of replacing stolen copper wires with aluminum wiring in order to mitigate the repetitive loss of copper wiring. To date, the County has rewired approximately 545 spans (wiring connections between poles) with no recorded thefts of the wiring, and only one (1) instance of vandalism. This one (1) instance was quickly repaired since the attempt to steal the wires was abandoned when the thieves realized the wires were not copper, as the lack of a resale market for aluminum makes it much less profitable. Furthermore, since there is a small difference in the price of new aluminum wire versus new copper wires, PWWM has adopted the use of aluminum wires as an accepted alternative to copper wiring within roadway lighting standards. The corridors listed below have been retrofitted with aluminum wiring as a result of their being repeatedly vandalized to remove the copper wiring:

- NW 7 Avenue, from NW 79 Street to NW 17 Street, Commission District 3
- NW 62 Street, from US-1 to the Rail Road Tracks, Commission District 2
- NW 32 Avenue, from NW 79 Street to the River, Commission District 2
- NE/NW 54 Street, from Federal Hwy to Douglas Road, Commission District 3
- NW 22 Avenue, from NW 79 Street to NW 62 Street, Commission District 2
- NW 36 Street, from NW 17 Avenue to NW 24 Avenue (partially), Commission District 3
- NW 71 Street, from I-95 to NW 19 Avenue (partially), Commission District 2
- NW 79 Street, from I-95 to NW 22 Avenue (partially), Commission District 2
- NW 17 Avenue, from NW 79 Street to NW 95 Street (partially), Commission District 2

While aluminum wire has proven to be effective, it should be noted that this is a solution to prevent repeated vandalism, and that it remains effective so long as there is no increase in the value of aluminum in the resale market. The implementation of the aluminum wiring solution has cost the County approximately \$498,675.00, and was completed through a Change Order to a current contract, approved by the Board of County Commissioners (BCC) on December 4, 2012 under Resolution R-1023-12. It is important to note that the NW 71 Street corridor, which was the most impacted by wire theft, has not been vandalized since the system was retrofitted with aluminum wire, a span of approximately 18 months.

More recently, HPE has introduced a product they claim prevents the theft of copper wiring from the street lighting systems. The specific device was developed and patented by HPE, and is therefore not available from other sources. The Florida Department of Transportation (FDOT) has implemented the use of this device on segments of I-95 and it has proven to be successful, with only one (1) reported incident of an attempt to steal the copper wiring. PWWM has reviewed the effectiveness of the device at FDOT installations and noted that the lighting installations along I-95 are considerably different than the installations along the County's arterial roadways. The lighting installations along I-95 are mounted on the center median wall, rendering attempts at stealing the wire more obvious, and as such, more difficult. Furthermore, FDOT monitors I-95 from the SunGuide Transportation Center through the use of

surveillance cameras. In contrast, the County's lighting system is more vulnerable as vehicles can easily park near any of the pull boxes, making surveillance more difficult.

In January of this year, HPE demonstrated the anti-theft device to PWWM and installed it at four (4) light poles along NW 7 Avenue at no cost to the County. However, in an effort to determine a more accurate depiction of the devices long term efficacy, PWWM requested an expanded installation. In February 2013 PWWM and HPE negotiated a pay item to conduct a pilot test of the device on 208 street lights, to be paid from the current maintenance contract's contingency funds at an estimated cost of \$140,000.00 (\$225.00 per device with two (2) devices per pole, and an estimated 100 intermediate pull boxes). The corridors selected for the pilot study are:

- NW 7 Avenue from NW 79 Street to 42 Street (107 Street lights)
- NW 46 Street from NW 6 Court to NW 38 Avenue (68 Street lights)
- NW 54 Street from Federal Highway to NW 6 Avenue (33 Street lights)

Currently, HPE has provided that they have completed the installation of 336 devices (107 Street lights and 61 intermediate pull boxes) along the NW 7 Avenue corridor. However, as of today, they have only called for inspection of the devices installed along the east side of this corridor. PWWM had anticipated being able to evaluate the effectiveness of the device over a three (3) to six (6) month period. Given that the devices were only installed on one (1) segment of the roadway, and only a month has elapsed, no conclusive determination as to the long term effectiveness of the devices can be made at this point. However, there has not been a report of wire theft along this corridor since the partial installation of the pilot study.

The following table depicts the 72 instances where corridors have been vandalized within the past three (3) years. Instances of vandalism have increased approximately 300% from previous years (2006-2009) in which there were 23 instances of vandalism. Additionally, PWWM has been working with the City of Miami to address recent vandalism to the streetlights along NE 2 Avenue, from NE 50 Street to NE 71 Street. The County is currently working with the City of Miami and HPE to have the approximately 95 spans of wires restored.

<b>Corridors</b>	<b>Impacted street lights</b>	<b>Total street lights within this corridor</b>	<b># of Times vandalized</b>
NW 71 ST, I-95 to NW 19 AV	35	35	11
NW 7 AV, 42 ST to NW 79 ST	107	107	6
NW 46 ST, 6 Ct to NW 22 AV	34	34	6
NW 46 ST, 22 AV to NW 38 AV	34	34	5
NW 54 ST, 6 CT to Federal HWY	33	33	5
NW 7 AV, 19 ST to NW 36 ST	41	41	4
NW 12 AV, 16 ST to NW 54 ST	82	82	4
NW 17 AV, 79 ST to NW 95 ST	36	36	4
NW 32 AV, 36 ST to NW 79 ST	54	54	4
NW 95 ST, 17 AV to NW 27 AV	26	26	3
NW 22 AV, 62 ST to NW 79 ST	59	59	3
NE 61 ST, Biscayne Blvd to NE 4 AV	5	5	3

NE/NW 62 ST, Biscayne Blvd. to NW 27 AV	121	121	2
NW 36 ST, 17 AV to NW 24 AV	31	31	2
NW 20 ST, 12 AV to NW 17 AV	18	18	2
Douglas Rd, 62 ST to NW 79 ST	27	27	2
Biscayne Blvd, 38 ST to NE 62 ST	105	108	1
NW 62 ST, NW 17 to NE 4 AV – R/R	79	79	1
NW 103 ST, 17 AV to NW 19 AV	8	33	1
Miami Gardens Drive, 36 AV to NW 43 CT	21	35	1
SW 112 AV, Coral Way to Bird Road	22	22	1
SW 117 AV, 152 ST to SW 184 ST	65	65	1
<b>Totals</b>	<b>1,043</b>	<b>1,085</b>	<b>72</b>

Over the last three (3) years a total of 1,043 street lights have been impacted by wire theft, which is an average of 29 lights per month. There are approximately 877 street lights within the impacted areas which would not have a security device installed assuming the pilot study referenced earlier is completed. At the current rate negotiated with HPE, the installation of security devices for the corridors listed before would cost the County an estimated \$484,650.00, and take approximately four (4) to six (6) months to implement.

**Alternatives for Implementing Security Devices**

During the May 7, 2013 BCC meeting, Resolution R-367-13 was adopted and directives were given requiring a report analyzing the feasibility of implementing security devices for copper wire and scrap metal theft prevention be provided at the next BCC meeting. During the meeting the following was discussed:

- 1) Limit the installation of security devices to those areas experiencing repetitive instances of theft.
- 2) Explore the possibility of extending HPE’s Proactive Street Lighting Repair and Maintenance Contract through a Change Order to include the installation of HPE’s device along those areas experiencing repetitive theft.
- 3) Include the use of a security device in the new maintenance contracts currently being procured.
- 4) Availability of funding for the installation of the security devices.

Following are two (2) alternatives for installing security devices along the County’s street light network:

- 1) Complete the pilot study currently under way and continue with the procurement of the four (4) new maintenance contracts as specified in the Street Light Maintenance Contracts section.
- 2) Effectuate a change order to the existing HPE Streetlight Maintenance Contract (PWWM Project No. 20100408 as follows:
  - a. Extend the contract duration by a certain time period. This would require an associated increase in funding for the maintenance of the street lighting system during the extended period. Based on the current number of lights under HPE’s maintenance purview, the estimated monthly rate for maintenance is \$110,000 (approximately 22,135 street lights at the contract’s \$4.98 per light / per month rate).
  - b. Add a pay item for the installation of the anti-theft devices and an estimated \$484,650.00 in contract capacity (two devices at \$225.00 per device at approximately 877 street lights and an estimated 200 intermediate pull boxes) for the vandalized corridors referenced above. Contract amount could be further increased to allow for the installation of

security devices at additional locations determined by the County to be impacted by vandalism.

- c. Adopt the necessary technical specifications which are to be included in the new maintenance contracts solicitations.
- d. Include a 10% contingency and other allowances (e.g., maintenance of traffic, off-duty law enforcement officer, permits) for the extended period.

**Fiscal Impact**

There is no additional fiscal impact associated with Alternative No. 1 as the one-time expenditure of \$140,000.00 is being funded through the existing contract's contingency funds. The fiscal impact associated with Alternative No. 2 is approximately \$484,650.00. If approved, this one-time expenditure for the installation of the security devices can be absorbed in the budget for the maintenance of street lights. The current contracts are funded with Secondary Gas Tax revenues.

PWWM currently maintains and operates approximately 25,000 streetlights throughout the County. Installing the security devices Countywide would have an estimated fiscal impact of \$12,375,000.00 (two (2) devices for each of the 25,000 streetlights at \$225.00 per device and a 10% contingency for intermediate pull boxes). Of the 25,000 streetlights, approximately half belong to FDOT and are maintained by the County through an existing maintenance and operation agreement. In 2012, FDOT reimbursed the County \$2,218,609.00 for the maintenance and operation of 12,229 streetlights. PWWM staff will contact the FDOT District VI office in an effort to identify any available funding to partner in this effort. Finally, the installation of this anti-theft device on County maintained streetlights would not serve as a benefit to any other agency or utility companies.

**Recommendation**

It is PWWM staff's professional recommendation that the County proceed with the ongoing pilot study and procurement of the four (4) new Street Light Maintenance contracts.

- c: Honorable Harvey Ruvin, Clerk of the Board  
Robert A. Cuevas, Jr., County Attorney  
Alina T. Hudak, Deputy Mayor  
Kathleen Woods-Richardson, Director, Department of Public Works and Waste Management  
Christopher Agrippa, Division Chief, Clerk of the Board

# MEMORANDUM

Agenda Item No. 11(A)(6)

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**TO:** Honorable Chairwoman Rebeca Sosa  
and Members, Board of County Commissioners


**DATE:** May 7, 2013

**FROM:** R. A. Cuevas, Jr.  
County Attorney

**SUBJECT:** Resolution directing County  
Mayor to perform a feasibility  
analysis concerning the use of  
security devices and other  
preventative measures to reduce  
the incidences of copper wire and  
scrap metal theft

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The accompanying resolution was prepared and placed on the agenda at the request of Prime Sponsor Commissioner Audrey M. Edmonson.

  
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R. A. Cuevas, Jr.  
County Attorney

RAC/smm



# MEMORANDUM

(Revised)

**TO:** Honorable Chairwoman Rebeca Sosa  
and Members, Board of County Commissioners

**DATE:** May 7, 2013

**FROM:**   
R. A. Cuevas, Jr.  
County Attorney

**SUBJECT:** Agenda Item No. 11(A)(6)

Please note any items checked.

- "3-Day Rule" for committees applicable if raised
- 6 weeks required between first reading and public hearing
- 4 weeks notification to municipal officials required prior to public hearing
- Decreases revenues or increases expenditures without balancing budget
- Budget required
- Statement of fiscal impact required
- Ordinance creating a new board requires detailed County Mayor's report for public hearing
- No committee review
- Applicable legislation requires more than a majority vote (i.e., 2/3's \_\_\_\_, 3/5's \_\_\_\_, unanimous \_\_\_\_ ) to approve
- Current information regarding funding source, index code and available balance, and available capacity (if debt is contemplated) required

Approved \_\_\_\_\_ Mayor  
Veto \_\_\_\_\_  
Override \_\_\_\_\_

Agenda Item No. 11(A)(6)  
5-7-13

RESOLUTION NO. \_\_\_\_\_

RESOLUTION DIRECTING COUNTY MAYOR OR COUNTY MAYOR'S DESIGNEE TO PERFORM A FEASIBILITY ANALYSIS CONCERNING THE USE OF SECURITY DEVICES AND OTHER PREVENTATIVE MEASURES TO REDUCE THE INCIDENCES OF COPPER WIRE AND SCRAP METAL THEFT AND PROVIDE A REPORT WITHIN 60 DAYS WHICH INCLUDES A CALCULATION OF COUNTY EXPENDITURES TO DATE RELATED TO COPPER WIRE AND SCRAP METAL THEFT AND RECOMMENDATIONS FOR IMPLEMENTING SECURITY DEVICES FOR COPPER WIRE AND SCRAP METAL THEFT PREVENTION

**WHEREAS**, skyrocketing prices for metals, especially copper, has resulted in a significant increase in the theft of copper, aluminum and other ferrous and nonferrous metals material in Miami-Dade County; and

**WHEREAS**, such thefts include metals material from light poles, which create power outages and endanger the health, safety and welfare of the public, particularly the elderly and children; and

**WHEREAS**, such thefts are economically burdensome on the County since the County is required to expend funds to replace or repair stolen or vandalized street signs and street lights owned by the County; and

**WHEREAS**, this Board has taken steps to prevent copper wire and scrap metal theft by enacting Ordinance No. 11-17 which created Sections 8A-9 through 8A-9.6 of the Code of Miami-Dade County. This legislation makes it more difficult for thieves to sell stolen items by



prohibiting scrap metal dealers from purchasing items commonly obtained through theft, prohibiting scrap metal dealers from engaging in cash transactions for certain items, and requiring scrap metal dealers to keep sale records, including a copy of the seller's identification; and

**WHEREAS**, this Board has encouraged an ongoing dialogue on the issue of preventing scrap metal and copper wire theft by creating the Scrap Metal and Copper Wire Theft Task Force, which issues recommendations to the Board on the enforcement of existing laws preventing scrap metal and copper wire theft, ways to educate businesses and the community on complying with the law, and other means of preventing the illegal sale of scrap metal and copper wire; and

**WHEREAS**, scrap metal and copper wire theft remains a serious issue and more can be done to keep our community safe; and

**WHEREAS**, the use of security devices and other preventative measures may reduce the incidences of scrap metal and copper wire theft; and

**WHEREAS**, Miami-Dade County presently has contracts with Horsepower Electric, Inc. and Prime Electrical Contractors, Inc. for the proactive maintenance and repair of the roadway lighting under the County's jurisdiction; and

**WHEREAS**, the installation of security devices on light poles or other preventative measures may be incorporated into the scope of work for Miami-Dade County's Proactive Street Light Maintenance contracts, or into the scope of work for another existing Miami-Dade County contract; and

**WHEREAS**, a feasibility study on the use of security devices and other preventative measures is necessary to determine the best course of action to prevent future scrap metal and copper wire theft; and

**WHEREAS**, it is essential for Miami-Dade County to have a full understanding of the amount of funds expended on the prevention of scrap metal and copper wire theft in order to offer its citizens the most protection with the least economic impact,

**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA**, that this Board:

Section 1. Directs the County Mayor or the County Mayor's designee to perform a feasibility analysis on the use of security devices and other preventative measures to reduce the incidents of scrap metal and copper wire theft.

Section 2. Directs the County Mayor or the County Mayor's designee to submit a report to this Board with the results of the analysis within 60 days of the effective date of this Resolution. Such report shall include: 1) a calculation of County expenditures to date related to scrap metal and copper wire theft; 2) recommendations for implementing security devices and/or other preventative measures countywide; 3) the expected cost for the recommended course of action; and 4) an explanation of whether the installation of security devices on light poles or other preventative measures may be incorporated into the scope of work for Miami-Dade County's contracts with Horsepower Electric, Inc. and Prime Electrical Contractors, Inc., or into the scope of work for another existing Miami-Dade County contract.

The Prime Sponsor of the foregoing resolution is Commissioner Audrey M. Edmonson. It was offered by Commissioner \_\_\_\_\_, who moved its adoption. The motion was seconded by Commissioner \_\_\_\_\_ and upon being put to a vote, the vote was as follows:

Rebeca Sosa, Chairwoman  
Lynda Bell, Vice Chair

Bruno A. Barreiro  
Jose "Pepe" Diaz  
Sally A. Heyman  
Jean Monestime  
Sen. Javier D. Souto  
Juan C. Zapata

Esteban L. Bovo, Jr.  
Audrey M. Edmonson  
Barbara J. Jordan  
Dennis C. Moss  
Xavier L. Suarez

The Chairperson thereupon declared the resolution duly passed and adopted this 7<sup>th</sup> day of May, 2013. This resolution shall become effective ten (10) days after the date of its adoption unless vetoed by the Mayor, and if vetoed, shall become effective only upon an override by this Board.

MIAMI-DADE COUNTY, FLORIDA  
BY ITS BOARD OF  
COUNTY COMMISSIONERS

HARVEY RUVIN, CLERK

By: \_\_\_\_\_  
Deputy Clerk

Approved by County Attorney as  
to form and legal sufficiency.

Joni A. Mosely

