



Corporate Report

NO: R038

COUNCIL DATE: MARCH 12, 2007

REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **March 8, 2007**

FROM: **General Manager, Engineering**

FILE: **5420-00**

SUBJECT: **Street Lighting Copper Wire Theft**

RECOMMENDATION

The Engineering Department recommends that Council:

1. Receive this Corporate Report for information purposes.
2. Adopt a resolution for the Lower Mainland Local Government Association regarding street lighting copper wire theft (Appendix A).

BACKGROUND

The primary purpose of street lighting on roadways is to provide comfortable visibility at night. This visibility facilitates and encourages the safe movement of vehicles and pedestrians on roadways during the hours of darkness. The City of Surrey operates and maintains approximately 20,000 street lights.

Since March 6, 2006, the City has recorded 402 locations with street light copper wire theft, or attempted copper wire theft. In order to steal copper wire from street lighting systems, thieves remove the hand hole access cover at the base of a street lighting pole, cut the wiring between the street lights, and then proceed to pull the copper wire from the pole and related conduits between the poles. The City's cost to replace the wire is many times the amount thieves get for the material. The cost for even a simple repair is in the tens of thousands of dollars, and takes several weeks to repair the damaged street lighting system.

In 2006, street light wire theft losses were approximately \$250,000, compared to 2005 losses of \$13,000. The incidences of wire theft have continued to rise since March of 2006. The total estimated losses due to street light wire theft for the first two months of 2007 is \$300,000. This trend is consistent with other municipalities in the region.

DISCUSSION

Public Safety

The use of street lighting reduces night accidents, and their associated human and economic costs. Since darkness limits the distance drivers can see with vehicle headlights, the use of street lighting increases the visibility on a roadway corridor beyond the range of vehicle headlights, providing drivers with more time to make informed driving decisions. Other benefits of street lighting include an increased sense of personal security for pedestrians, and for the promotion purposes of businesses and public facilities during night hours. Wire theft compromises road user and pedestrian safety and inhibits the promotion of businesses and public facilities.

Apart from the vehicle and pedestrian operational safety issues, copper wire theft creates a significant risk of electrocution for the public. Wire thieves typically leave electrical systems insecure, with potentially lethal voltages existing on exposed wires. These exposed wires are at street level, and accessible to road users and pedestrians, including young children.

Theft Mitigation Measures

Staff are reviewing options to reduce copper wire theft from street lights. Theft mitigation measures being reviewed for existing street lights and new street light installations are outlined below.

1. Existing Street lights

Security devices/techniques designed to deter the wire theft from existing street lights include:

- installing lockable hand hole covers
- installing security bolts on hand hole covers
- welding shut of hand hole covers.

Lockable hand hole covers and security bolt hand hole covers have been installed on street light systems where theft or attempted theft has taken place. Based on current estimates, retrofitting Surrey's entire street light infrastructure with any of the above devices/techniques would cost between \$.5 and \$2 million. It is difficult to anticipate how well any of these security devices will deter theft until most existing street light systems have security devices in place. The City has experienced some repeat wire theft on systems that have been retrofitted with security devices or techniques as mentioned above.

Staff is also reviewing the option to use radio-controlled devices designed to monitor street light voltage drop. A device such as this may be able to detect street light circuit tampering, and transmit an alarm to law enforcement personnel, who would then be in a position to capture the "would be" thief.

2. New Street light Installations

For new street light installations, Engineering is reviewing the following mitigation measures:

- installing lockable hand hole covers
- installing security bolts on hand hole covers
- installing baffles inside street light poles to eliminate the possibility of wire removal without street light pole removal
- using smaller gauge wire, or wire with less desirable recycling characteristics (i.e. aluminum wire, or copper wire with steel content)
- using copper wire identification techniques to label wiring with owner's ID.
- using radio-controlled devices designed to monitor street light voltage drop

Engineering staff will be working with land developers and engineering consultants to develop and implement the above mitigation measures on new street light installations.

RCMP Initiatives

The following initiatives are currently being employed by Surrey RCMP to combat copper wire theft:

- Surrey RCMP are working with community partners to share best practices in recommending specific preventative measures such as lockable hand hole covers on street lights, increased video surveillance, copper wire identification techniques, and other initiatives.
- Surrey RCMP have made 7 arrests for wire theft.
- Surrey RCMP are doing their best to ensure that arrested individuals are being held prior to court and that Victim Impact Statements, outlining the seriousness of the problem, are accompanying the accused to court.
- The City has supplied the RCMP with a Victim Impact Statement.
- Crime analysts have incorporated these crimes in an intelligence led "hot sheet" in order to better coordinate front line policing resources. The report identifies up to date targeted crime areas in order to focus police patrols to these areas.
- Surrey plainclothes RCMP officers are targeting crime groups involved in metal theft, resulting in the dismantling of their systems, and subsequently disrupting their influence.

By-Law & Licensing Initiatives

Surrey's by-law enforcement officers are continuing to review metals received at local scrap metal businesses, with an emphasis on monitoring copper wire trading.

Both Surrey's By-law and Licensing Section and Surrey RCMP are part of a regional Scrap Metal Working Group. This group, created in the fall of 2006, consists of by-law enforcement officers, municipal police officers and RCMP officers from the Greater Vancouver region.

The Scrap Metal Working Group has drafted a modular by-law to act as a prevention initiative on three related businesses:

- scrap metal businesses
- pawn shops
- second hand stores

It is the intention of this by-law to make it more difficult for metal thieves to sell and obtain immediate cash from stolen metal goods. The by-law template recommends all scrap metal buyers electronically report purchases to their local police. The by-law and accompanying computer system will be presented to local municipalities in the very near future.

Provincial Initiatives

Copper wire theft is affecting many corporations and governments in British Columbia, including B.C. Hydro, B.C. Transmission Corporation, TransLink, the Provincial Ministry of Transportation and most Lower Mainland municipalities. Surrey is working with other local governments and corporations affected by wire theft to develop by-laws that make stolen metals more difficult to recycle.

The Engineering Department recommends that Council submit a resolution for the Lower Mainland Local Government Association regarding street lighting copper wire theft (Appendix A – Sample). An initiative of lobbying senior levels of Provincial Government to make changes to copper recycling laws will assist in preventing copper theft for all governments and corporations in British Columbia.

FUNDING

The 2007 Traffic Operations budget does not have sufficient contingency to cover the levels of wire theft that are likely to occur this year. Currently the replacement of wire is being funded from the City's self-insurance fund and general revenue roads unallocated funds. Even with the measures outlined to reduce wire theft, the cost for 2007 could reach \$1 million. Staff will monitor the use of the two funding sources to ensure that expenditures are within budgets. However, the use of general revenue road unallocated funds will mean that less funding will be available for other road purposes such as road repaving, new sidewalks, traffic calming, etc.

CONCLUSION

The theft of copper wire from street lighting systems jeopardizes the safety of the public. Copper wire theft also results in a significant financial cost to the City. Engineering staff, By-law enforcement staff and the RCMP are committed to providing a safe environment for Surrey's citizens, and will continue with both theft deterrent and administrative initiatives to protect City assets from wire theft crime.

To assist in this, the City is also requesting the Province introduce legislation to better control the acceptance of scrap wire by metal recycling companies and the attached resolution to the LMLGA is part of this process.

Paul Ham, P. Eng.
General Manager, Engineering

PH/VL/BW:kd2/brb

Appendix A – LMLGA Resolution

<http://surrey.ihostez.com/content/uploaded/a119bee98bd44c94bccbbd2e68b44147-03071002ph.doc>
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APPENDIX A

LMLGA Resolution

Sponsor

Addressing the Issue of Stolen Metals

City of Surrey

WHEREAS copper wire theft compromises road user safety, inhibits the promotion of businesses and public facilities;

AND WHEREAS copper wire theft creates a significant risk of electrocution for the public.

AND WHEREAS the replacement of copper wire, following theft, places a heavy financial burden on municipalities and the Provincial Ministry of Transportation;

THEREFORE BE IT RESOLVED that

The LMLGA work with the Provincial Government to establish legislation related to transactions involving scrap metal recycling, particularly copper wire, making it more difficult to sell scrap metal wire that is stolen.