SUBJECT: Streetlighting Maintenance Program Service Levels, Asset Management and Service Provider Transition (PW07024) - (City Wide)

RECOMMENDATION:

(a) That service levels for the City’s Streetlighting Maintenance Program be approved as outlined in Report PW07024 as Appendix “A”;

(b) That R.J. Cramm Electric (1999) Limited be awarded the contract (C11-81-06) for the provision of streetlighting maintenance services for the period 2007-2010 in accordance with the terms and conditions of their RFP;

(c) That the Mayor and Clerk be authorized to execute a contract, and the General Manager of Public Works any other documentation required, in the opinion of the City Solicitor, to implement the above, said contract and documentation to be to the satisfaction of the General Manager of Public Works and the City Solicitor;

(d) That the streetlighting maintenance budget for 2007 be reduced from $1,417,120 to $919,600 including as part of the 2007 program current budget (account 51001-469055) full-time Project Manager and student co-operative positions to be added to the staff complement to supervise contracted maintenance and capital improvement aspects of the streetlighting program.
EXECUTIVE SUMMARY:

Historically, streetlighting maintenance in Hamilton has been outsourced, with the majority of the work performed by Horizon Utilities Corporation (HUC). The arrangement with HUC was a sole source provider with an informal working arrangement for defining the service level.

In January of 2005, City Council approved a staff report containing a number of recommendations for changes to the streetlighting maintenance operation. One recommendation was that “staff be authorized and directed to review options for streetlighting maintenance which may include tendering for new maintenance service vendor or providing maintenance using City forces”. Another recommendation was that a standard level of service for streetlighting repair be established.

Subsequently, it was determined that City forces did not have the capability to undertake streetlighting maintenance and that the best option was to continue with a contracted service. A Request For Proposals (RFP) based on a three-year term (with options on years 4 and 5) for maintenance service was prepared and issued in August 2006.

The bids received had a wide variation in prices with the highest being about seven times as much as the lowest. HUC bid on the RFP but were not low bid. The successful bid was from R.J. Cramm Electric (1999) Limited. This company has been performing streetlight maintenance for the City in the Hydro One rural area for the past few years and submitted a very competitive bid for the entire City.

The RFP contains very clearly defined service levels that allow the City to promise our public a reliable, very high standard of maintenance response. The consequences of failing to meet the defined obligations are detailed in the RFP and will be clearly set out in the new contract. By arrangement with the contractor, the City will track all repairs through the Hansen asset management program, giving us valuable asset information, which will be used to make decisions on how to manage the system in the coming years, and providing financial information which is virtually current.

The City has an infrastructure which needs much more attention and planning than has been provided since amalgamation. For example, the City owns over 12,000 concrete and steel poles, for which no replacement program has been established. Overall, the City’s capital program has been under resourced, such that staff have not been able to do the necessary planning for infrastructure replacement or for new installations.

The low bid creates an opportunity to improve the following aspects of the Streetlighting Maintenance Program:

Program service level (response time to complaints) and overall system performance (number of lights working correctly at any given time)

Program management and accountability (contractor supervision, quality assurance, risk management, customer service, expenditure control and contract administration)

Budget reduction ($15,000 reduction from 2006 operating budget), along with tighter financial control

Asset management (asset inventory and maintenance history for inventory of 40,000 lights)
In order to achieve the above goals it is recommended the staff complement be increased by one project manager and one co-operative student, which can be done within the budget and still allow for a reduction in budget from 2006.

It is recommended that the City enter into a formal contract with Cramm Electric, given the nature of the relationship and the desirability of having rights and obligations spelled out clearly for all parties.

The formal competitive bidding of the streetlight RFP has created a situation where the City can provide a higher level of service on both maintenance and capital programs with an overall lower current budget than the 2006 budget.

**BACKGROUND:**

The information/recommendations contained within this report have city wide implications.

**A. REQUEST FOR PROPOSALS**

Streetlighting maintenance consists of repairing lights that are burnt-out or “cycling” on and off, conducting regular inspections to proactively identify locations that require repair, undertaking repairs of underground cabling and hardware, straightening and replacing poles and providing underground cable location information for utilities and others digging in the area of streetlights.

Currently, as approved by Council, Horizon Utilities Corporation maintains the majority of streetlights in its own service area which comprises most of the urban areas in the city. Cramm Electric maintains lighting in the Hydro One service area, which is mostly rural Hamilton. In addition there are 3 smaller contractors maintaining decorative lighting primarily in the downtown, BIAs and some newer subdivisions. The arrangement with Horizon Utilities Corporation is an historic arrangement which dates back many years to the time during which street lights were owned by the electrical utility company. The maintenance arrangement with Horizon Utilities Corporation since amalgamation has been a sole source arrangement with the actual costs incurred by the utility being billed. Costs have risen significantly over the past few years, while service levels have been inconsistent.

In January 2005, Council endorsed the concept of staff considering alternatives to this arrangement. Staff were to review options for street light operation and maintenance which were to include tendering for a new service vendor or providing maintenance using city forces. Staff considered the use of internal forces and concluded that the City has neither the expertise nor the resources, manpower or equipment, to undertake streetlighting maintenance. It was therefore concluded that the preferred option would be to continue to outsource the service but to consolidate the operation into one or two contracts. This is consistent with the industry standard, in which streetlight maintenance is consistently outsourced. In the summer of 2006, a Request for Proposals (RFP) was issued which broke the city service areas down into the former Hydro One area and the current Horizon Utilities area. Five compliant bids were received, all of which bid on both areas simultaneously. The lowest of the bids, from R.J. Cramm Electric (1999) Limited, was significantly below the current budgeted cost of
streetlighting maintenance. The bid responses for the three-year term of the contract were as follows:

- TransTest Limited $2,856,860
- Langley Utilities Contracting Limited $3,375,586
- Horizon Energy Solutions $5,718,932
- AGI Traffic Technologies $11,143,191

The Request For Proposals contained very high standards for response to the various types of maintenance requirements, as well as financial disincentives for not achieving the defined service levels. Thus, the overall outcome is that the City will be provided with a higher level of service than at present, at a cost lower than the 2006 budget level. The budget information is described in detail in the Financial/Staffing/Legal section.

B. SERVICE LEVELS

Attached is an updated service level standard for the consideration of committee and council. Based on the Cramm response to the RFP, it is possible to state that virtually all complaints received about burnt out bulbs or cycling lights should be responded to within 5 working days. Repairs should be affected better than 95% of the time, with a few repairs delayed due to lack of specialized parts. Cramm is obliged to attend within the time frame, but there will be occasions for which the spare parts will not be immediately available. For the case of streetlights which are not reported to the City by complaint, the contractor will undertake monthly inspections and will repair all repairs identified within two weeks of the end of each patrol cycle. That means that the maximum length of time a bulb should be malfunctioning should be 6 weeks if left unreported. The exceptions to this standard are those lights which “cycle” on and off. It is not always possible to find those during the first night patrol, but continued monthly patrols will ensure the best chance of finding them. These standards have been incorporated into the service level document. It should be noted that the 5-day response to complaints will commence immediately with the start of the contract, but the stated service level for repairs generated from the regular patrol inspection will require several months to achieve, while the contractor brings the overall system quality up to standard.

The contract will have clear standards regarding the contractor’s obligations for meeting desired timelines for bulb repair, straightening leaning poles on time; providing proper documentation when doing group replacement of bulbs and providing underground utility information. The contractor will be held responsible for damage resulting from failure to properly provide location information.

C. ASSET MANAGEMENT

The streetlighting asset consists of about 40,000 luminaries (lights), about 12,000 City-owned poles and substantial amounts of underground cable and switching devices. The value of the asset is estimated at $50 million.

Under the new situation, all maintenance work will be entered into the Hansen program, which will allow for tracking of repetitive faults and identification of patterns of failure. This will allow us to best choose materials and timing of group relamping to minimize maintenance costs.
Under present arrangement, staff have been managing the capital asset in a strictly reactive mode. The key concerns are the deteriorating state of the standard concrete and decorative steel poles and concerns about the state of the electrical wiring inside the steel poles. These elements need a formal program of investigation and repair/replacement before they become a physical or financial liability.

D. STAFFING

The basic tasks that the streetlighting staff are supposed to be doing are as follows:

- Contract management - oversee all aspects of the contractor operation, including compliance with the timeframe requirements and validation of invoices
- Field inspection - ensure contractor compliance with traffic and electrical health and safety standards; ensure work is being done to City and RFP standards
- Develop and administer streetlighting standards - the standards in use for new subdivision developments are reviewed and updated as new methodologies and new technologies become common. The standards in use in the City are formalized and documented
- Infrastructure management - the existing streetlighting physical plant is inspected, inventoried for condition and a plan for maintaining it in usable shape is developed
- Streetlight system expansion - a new Canadian manual for streetlighting was recently published. A plan is developed for those locations for which new streetlighting or streetlighting upgrades might be implemented in existing locations
- Capital budget development - based on the infrastructure and new expansion needs, a long-term capital budget plan is prepared
- Records management and analysis - the Hansen system and the associated Geographic Information System carrying the pole location data are transferred from HUC, updated and then kept current. As the contractor performs work, all work orders are recorded against the individual streetlights, so that the patterns of failure can be identified and countermeasures adopted
- Development plan review - streetlighting plans submitted by developers are reviewed against the corporate standards. Field inspection is then conducted to assure the constructed lighting systems match the planned

The existing staffing consists of one technologist (who shares part of his time with Water & Wastewater) and a rotating co-operative student. The current staffing is sufficient only to react to complaints (both maintenance and lighting levels) and do a rudimentary job of managing our current contractors’ maintenance activities. Infrastructure management does not take place at all, and decision-making tends to be ad hoc, rather than based on good information and analysis. Capital projects for site specific improvements are significantly backlogged. Thus, most of the tasks noted above are not done at all, or are only completed to a minimal level.

This level of support will not be sufficient under the new situation. Without sufficient staff, a number of risks will occur. First, we will not be able to properly supervise the contractor for health and safety, both traffic safety and electrical safety. Our contractor will be stopped in traffic regularly and working live with 120 volt and in the proximity of
much higher voltages. While the contractor has the primary responsibility for health and safety, the City must do due diligence in regularly ensuring that the contractor meets his obligation, or we are held accountable also. With approximately 3,000 lamp burn outs per year and approximately 25,000 utility locates per year, regular inspection and audit of the contractor’s work is required. Second, it is expected that it will take a substantial amount of staff time, about 1 FTE, to properly manage the contractor’s compliance with the performance standards and to verify invoicing. Without added staff, we will not be able to assess, on an on-going basis, the performance of the contractor in relation to the standards attached to this report. In addition, with the large number of repairs and inspections required, there is a need to conduct regular audits in order to ensure that progress payments are correctly issued. Failures to do so would leave us open to criticism, should the project be audited. A recent audit of streetlighting in Brampton (similar operation and size of system to ours) has resulted in a recommendation that their staff of four be increased to seven. Third, we will continue to ignore the depreciation of the streetlighting infrastructure, worth over $50 million, which will ultimately result in pole failures and electrical faults, with the attendant liability. Finally, we will not be able to properly plan for new streetlighting installations.

It is recommended that a full time project manager and a full-time co-operative student position be added to the staff presently supporting streetlighting.

The staffing increase suggested will provide a staff of two full-time and two rotating co-operative students. By comparison, Ottawa (50% larger, same project structure) has a full-time staff of 13 assigned to streetlighting, and as noted, Brampton has 4, with the recommendation from their audit to expand to 7. Due to the favourable bid on this RFP, the staffing increase will be possible and a budget decrease from 2006 to 2007 will still be achieved.

E. CONTRACT

It is recommended that the City enter into a formal contract with Cramm Electric (1999) Limited detailing all aspects of the work involved, given the nature of the relationship and the desirability of having rights and obligations spelled out clearly for all parties.

ANALYSIS/RATIONALE:

The proposed structure of private maintenance contractor, with clear and high-quality service standards and appropriate staffing levels will lead to:

- A higher and more consistent level of maintenance service than currently exists, with higher public satisfaction, increased public safety and better City image
- Lower overall costs
- Better asset management, with a proper plan for upgrading and maintaining the City’s streetlighting assets, thereby preventing future problems
- Lower risk of public or contractor safety issues, as well as a program that will stand the scrutiny of a formal financial audit
- Better financial management, through detailed tracking of work
ALTERNATIVES FOR CONSIDERATION:
Staff have considered all potential alternatives and have concluded that there is no other viable alternative to the structure suggested.

FINANCIAL/STAFFING/LEGAL IMPLICATIONS:
Following is the detail of the streetlighting current (maintenance) budget for the entire City of Hamilton:

- **2006 budget, using HUC and other contractors:** $935,340
- **2007 initial budget submission based on 2006 actual costs:** $1,156,340
- **2007 revised budget to account for the expected cost of a contracted service (based on comparator municipalities with similar outsourcing structures):** $1,417,120
- **Proposed budget with Cramm Electric, based on RFP:** $919,600
- **Budget reduction compared to present 2007 submission:** $497,520
- **Budget reduction compared to 2006 approved budget:** $15,740

HUC records are not complete; therefore there is some uncertainty as to the exact quantities of the various types of electrical repairs which will occur under this RFP. As well, there appears to be significant variation year to year. The budget for 2007 has been prepared including the R.J. Cramm contract work at a level based on our current understanding of the state of the system, costs for Horizon Utilities Corporation to give specialized support when their equipment is involved, costs for Ontario One-Call to provide utility location management and the recommended two full-time staff members. The proposed budget is $919,600, approximately $15,000 less than the total budget for 2006, and more than $495,000 under the 2007 budget as presently stated.

POLICIES AFFECTING PROPOSAL:
A revised service level standard outlined in Report PW07024 as Appendix “A” is proposed for Committee and Council consideration.

RELEVANT CONSULTATION:
The Purchasing and Finance Sections have been of great assistance in both developing the RFP and in the evaluating the proposals.

CITY STRATEGIC COMMITMENT:
By evaluating the “Triple Bottom Line”, (community, environment, and economic implications) we can make choices that create value across all three bottom lines, moving us closer to our vision for a sustainable community, and Provincial interests.

- Community Well-Being is enhanced. ☑ Yes ☐ No
  Through an improved maintenance service level ensuring consistent and reliable streetlighting benefiting public safety and security.

- Environmental Well-Being is enhanced. ☐ Yes ☑ No
Economic Well-Being is enhanced. ☑ Yes ☐ No
Through improved program cost effectiveness through reduced unit costs, and provision of appropriate contract administration, and program & capital asset management.

Does the option you are recommending create value across all three bottom lines?
☐ Yes ☐ No

Do the options you are recommending make Hamilton a City of choice for high performance public servants?
☑ Yes ☐ No
Through contribution to effectively managed service program delivery supporting the Corporation’s reputation as a “quality” public service provider.
Appendix “A”
Streetlighting Maintenance Standards

1. **Description and Purpose**
   (Explain why this policy is required and what it should accomplish)

   This definition explains the service to be provided for maintaining streetlighting and associated electrical devices.

2. **Scope**
   (Define which sections and which individual employees are impacted by this policy)

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   This standard applies to maintenance activities only, not to capital projects such as new lighting installations or replacements.

   The elements to be maintained include streetlighting arms and fixtures, as well as the poles and underground wiring systems which are owned by the City of Hamilton.

3. **Objective:**
   The primary objective for streetlighting maintenance is to have all equipment in proper working order at all times. This maximizes safety for the system users.

4. **Service Level Standards:**

   A. **BURNT-OUT OR “CYCLING” LIGHTS, PUBLIC OR STAFF COMPLAINT**
      - The service level standard is a response to the call by a maintenance crew visiting the site within five working days.
      - Repairs should be affected at the time of the first maintenance call 95% of the time.

   B. **PATROL FREQUENCY**
      - Night patrol for burnouts or cycling lights should be conducted monthly, such that all streetlights in the City are observed in a “drive-by” inspection 12 times per year.
      - Day patrol for lights that remain on improperly should be conducted twice per year.

   C. **BURNT-OUT OR “CYCLING” LIGHTS, FOUND VIA PATROL**
      - All lights identified as defective through proactive patrol should be repaired within two weeks of the end of the patrol cycle.
      - The goal is to identify 100% of burn-outs and at least 50% of cycling lights on the first patrol after the light becomes defective.

   D. **LOCATES**
      - Emergency locates are to be completed within two hours of contractor notification.
      - Priority locates are to be completed within the timeframe defined by Ontario One-Call (1 to 5 days, as defined by Priorities 1-5).
      - Regular locates are to be completed within five working days of contractor notification.

5. **Associated Documents**
   City RFP C11-81-06

6. **Revision History**

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