

2. UTILITY CUT RESTORATION - PERFORMANCE ASSESSMENT  
INTERNATIONAL CONSORTIUM - REGIONAL PARTICIPATION

**COMMITTEE RECOMMENDATION**

**That Council approve the expenditure of \$96,000 for the Region's participation in an international consortium sponsored by the National Research Council of Canada and the US Army Corps of Engineers for the development of practical and cost-effective solutions to extend the life of urban roads experiencing many utility cuts.**

**DOCUMENTATION:**

1. Environment and Transportation Commissioner's report dated 17 Mar 99 is immediately attached.

REGION OF OTTAWA CARLETON  
 RÉGION D'OTTAWA CARLETON

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REPORT  
RAPPORT

Our File/N/Réf.                   **50 67-99-0001 / 05-99-0005**  
 Your File/V/Réf.

DATE                               17 March 1999

TO/DEST.                         Co-ordinator  
                                       Corporate Services and Economic Development Committee

FROM/EXP.                       Environment and Transportation Commissioner

SUBJECT/OBJET                 **UTILITY CUT RESTORATION - PERFORMANCE  
 ASSESSMENT - INTERNATIONAL CONSORTIUM -  
 REGIONAL PARTICIPATION**

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### **DEPARTMENTAL RECOMMENDATION**

**That the Corporate Services and Economic Development Committee and Council approve the expenditure of \$96,000 for the Region's participation in an international consortium sponsored by the National Research Council of Canada and the US Army Corps of Engineers for the development of practical and cost-effective solutions to extend the life of urban roads experiencing many utility cuts.**

### **BACKGROUND**

The Environment and Transportation Department is in the final stages of a comprehensive review of the management of utility activities on Regional rights-of-way. This review includes legal and regulatory issues, administration, inspection, traffic management, right-of-way restoration standards, pavement life-cycle impacts and the setting of fees for cost recovery.

In conjunction with this review, a literature search by the National Research Council of Canada (NRCC) identified a number of technical studies carried out by other agencies indicating that the cutting of pavements by utility companies reduces road life by up to 60%. The Department's work to date with respect to the situation on Ottawa-Carleton's roads confirms reduced pavement life due to road cuts and it is expected that the current study will present recommendations designed to reduce this effect as well as suggest mechanisms to fairly allocate the resulting costs (some North American jurisdictions have recently introduced a pavement degradation fee).

## DISCUSSION

Although, as a principle outcome of the current road cut study, the Department plans to recommend improvements to the existing pavement restoration standards, it is evident from a review of the literature that there is much more that can be done to improve in this area. One of the most limiting factors in accomplishing this is the unavailability of an adequate analytical process that is capable of taking into account the many variables that affect the performance of restored utility cuts (e.g. original pavement structure, backfill materials, construction related issues, traffic, climate, subgrade soils, drainage etc.). Such a process or analytical model could be used to overcome the limitations of site specific field experiments and assist with the development of superior performing restoration methods. At the same time it could assist with the development of methods that are cost effective and practical for real life application.

The NRCC had proposed the development of such an analytical process as part of the Region's current utility study. At the time, staff felt that the cost and scope required to ensure the success of such an initiative was far too great for just one municipality to undertake. However, the NRCC's Institute for Research in Construction has now joined forces with the US Army Corps of Engineers' Cold Regions Research and Engineering Laboratory to bring together a consortium of public and private sector participants from across North America. Stakeholders involved are from municipalities, utility providers, material suppliers and equipment manufacturers. In addition to the development of an analytical process, the consortium plans to undertake instrumented field experiments and carry out laboratory simulations for traffic, temperature and moisture. It is intended that the end products will be assembled in an easy to use format for day to day practice.

The NRCC and the US Army Corps of Engineers have proposed a total budget for this project of \$3.4 M. It is staff's opinion that this figure is indicative of the project scope required for a successful outcome. Ottawa-Carleton's share for participating in the consortium is \$96,000. The project will be overseen by a steering committee comprised of consortium members and is expected to extend over a two to three year period.

At the current time, the technological capability for assessing the performance of restored utility cuts is analogous to trying to measure an atom with a yard stick. Crude at best. In recent years other advances in pavement management technology have enabled much more accurate predictions of pavement performance to be made, resulting in longer lasting roads. It has been found that a 1% improvement in quality control can increase pavement life by 10%. To be able to measure performance within a percentage point and therefore realize significant benefits, requires sophisticated equipment and analytical processes. The NRCC and the US Army Corps of Engineers propose to do for utility cuts what the Strategic Highway Research Programme recently did for pavement management by developing the SUPERPAVE technology. The American Public Works Association is already considering the possibility of incorporating the analytical process produced by the utility cut consortium into one of its most popular pavement management products (Micro Paver, which was also developed in collaboration with the US Army Corps of Engineers) as a new module.

Experience from other jurisdictions indicates that utilities frequently resist the imposition of more rigorous cut restoration standards. In the absence of a thorough and objective cut restoration performance assessment process, it is difficult or impossible to convince utility companies to accept the additional costs that improved restoration methods often involve. Some utility representatives still take the position that road cuts do not damage roads and, even when there is acknowledgement of the negative effects of cuts, it is often viewed as, “we’re doing a good job reinstating our cuts, it’s the other guy”. The NRCC/US Army Corps of Engineers initiative, involving both public agencies and utility companies working in partnership towards a solution, is the next major and needed step for the advancement of the technology and practice in this area.

### CONSULTATION

The Environment and Transportation Department has formulated a Technical Advisory Committee (TAC) for the current utility study. Representatives from all Area Municipalities, utility companies and Regional work groups dealing with road cut matters have been invited to participate in the TAC. Discussions with the NRCC suggest that it would be appropriate to continue to use the TAC group as a vehicle for communications on this subject in Ottawa-Carleton.

### FINANCIAL STATEMENT

	\$
Approved Budget to Date	7,280,000
Total Paid and Committed	<u>(0)</u>
Balance Available	7,280,000
THIS REQUEST	<u>(96,000)</u>
Balance Remaining	<u><u>7,184,000</u></u>

Funds have been provided in the 1999 Budget, Resurfacing Program, Account No. 912-30752.

*Approved by*  
*M. J. E. Sheflin, P. Eng.*

LAR/ms

FINANCE DEPARTMENT COMMENT

Funds are available as indicated.

*Approved by T. Fedec  
on behalf of the Finance Commissioner*