

MEMORANDUM

TO: Members of Regional Council

FROM: Kathleen Llewellyn-Thomas, Commissioner of Transportation Services

DATE: April 21, 2011

RE: **Regional Street Tree Program Update – Additional Information**

At its April 6, 2011 meeting, Transportation Services Committee requested additional information on the costs associated with the improvements proposed in the Regional Street Tree Program Update report. This memo provides the additional information requested on the proposed improvements to the street tree watering program and boulevard soil treatment.

Our street trees (32,500 trees) are an asset with a replacement value of \$18,000,000. This value does not consider the direct and indirect financial benefit of the variety of functions and services which street trees provide (e.g. energy savings, stormwater management, pollution uptake, health benefits, etc).

1. Street Tree Watering Program

Currently newly planted street trees are watered ten times per year for the first three years following planting. Staff proposes increasing the number of waterings to 14 per year for the first three years following planting. This increase in watering (four new waterings/year) will cost an additional 40% per year (\$144,000 capital) over the existing budget. Table 1 details the costs associated with the current and proposed watering program.

Table 1
Current and proposed annual street tree watering program capital costs

	Annual watering costs	Watering costs - next 10 years
Current program – 6000 trees watered 10 times per year	\$360,000	\$3,600,000
Proposed program – 6000 trees watered 14 times per year	\$504,000	\$5,040,000
Cost of program improvements	\$144,000	\$1,440,000

- 2,000 trees planted each year and watered for 3 years (establishment) = 6,000 trees watered annually

2. Boulevard Soil Treatment

The performance and growth of street trees is directly related to the amount of good quality soil available for root system development. The current Regional boulevard design standard (ten cm of topsoil) does not provide an adequate amount of quality soil to support tree performance and growth. Staff are proposing the incorporation of a boulevard soil trench into the Road Design Guidelines and future road capital projects to ensure the trees survive and grow. The estimated cost to implement this soil trench is \$35,000 per km which represents an increase of 0.3% per km of the total project capital cost. Table 2 details the costs associated with the proposed improvement (per km and per year) and the forecast impact on the 10 year horizon.

Table 2
Current and Proposed Boulevard Soil Treatment Costs

	Cost per kilometre	Annual cost (10km/year)	Cost for 10 year implementation
Current treatment – 10 cm of topsoil	\$44,500	\$445,000	\$4,450,000
Proposed treatment – includes a soil trench	\$79,500	\$795,000	\$7,950,000
Incremental cost of soil trench improvement	\$35,000	\$350,000	\$3,500,000

It should be noted that this forecast is based on planting street trees on only 65% of a linear km of road (both sides). This 65% factor is based on previous experience of the actual area available for planting (i.e. taking out intersections, driveways and other built form features) coupled with a focus on planting 'the best' locations only with the highest chance of survival.

3. Net Benefits to Regional Street Tree Program improvements

Implementation of the proposed improvements will decrease street tree complaints, tree death, decline and overall replacement rates. The benefits will include better performing street trees, less public complaints, improved growth, increase the overall value of this asset, and the financial benefits associated with their functions and services. This increase in value will provide a net benefit to the Region. Table 3 provides a comparison of status quo vs costs of the program improvements.

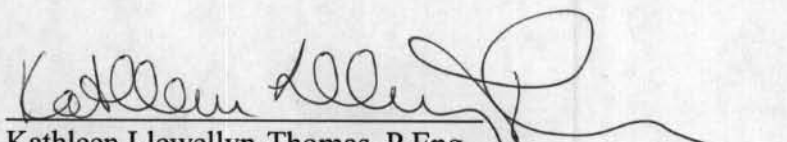
Table 3
Current and proposed annual street tree planting and establishment costs

Annual Program	Status Quo (no change)	Proposed Improvements	Incremental Annual Cost of Improvements
Watering (10 times vs 14 times)	\$360,000	\$504,000	\$144,000
Soil (topsoil vs topsoil and soil trench)	\$445,000	\$795,000	\$350,000
Street tree planting (2,000 trees)	\$1,000,000	\$1,000,000	-
Total Cost	\$1,805,000	\$2,299,000	\$494,000
Street tree death (replacement)*	25%	5%	-
Tree replacement (planting + water) costs	\$340,000	\$75,200	(\$264,800)
Net annual cost to Region	\$2,145,000	\$2,374,200	\$229,200

* Improvements result in replacement rates dropping from 25% to 5% as survival increases from 75% to 95%

In summary, the annual net \$229,200 cost of the proposed program improvements includes watering and provision of a soil trench offset by the reduction in tree replacement costs. The \$229,200 net cost represents 7.3% increase over the approved 2011 Forestry Budget of \$3,157,100. It is anticipated that the public complaints about the state of our street tree health will be significantly reduced.

Through the implementation of the Streetscaping Policy and other master planning initiatives, the Region has made an investment in street trees. Wise expenditures during the critical establishment period (3 years) for our street trees will provide a significant return over the long term as the street trees grow, thrive and contribute to every aspect of our sustainable communities.


Kathleen Llewellyn-Thomas, P.Eng
Commissioner of Transportation Services

JL/IB