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ALTERNATIVE PAINTING SCHEME TO IMPROVE ELEVATED WATER TANK AESTHETICS AND REDUCE MAINTENANCE COSTS

The Environmental Services Committee recommends:

- 1. Adoption of the recommendations contained in the following report dated December 15, 2010, from the Commissioner of Environmental Services; and**
- 2. The word “cleaning” be changed to “painting” in section 4, line 5 of the report so that it now reads:**

“It is proposed the remaining 26 tanks will have the conical section painted blue at the next scheduled painting.”

1. RECOMMENDATIONS

It is recommended that:

1. Regional Council endorse the recommendation to paint the conical sections of elevated tanks blue.
2. The Regional Clerk circulate this report to the Clerks of the local municipalities.

2. PURPOSE

This report updates Council on the existing policy for painting water storage tanks and seeks Regional Council endorsement for painting conical sections of an elevated tank blue for aesthetics purposes and to reduce maintenance costs.

3. BACKGROUND

Many elevated water storage tanks in Ontario incorporate colour and graphics that define their communities

In September 1992, Regional Council approved a report that permitted painting community identifiers and local municipal logos on elevated tanks at the sole expense of the local municipality, subject to approval by the Region. (*See Council Attachment 1*)

To date the Region has painted all the upper tank portions white. It has been observed that dark staining occurs on the outer surface of the conical section of the tank after only two to

three years due to condensation. Other communities have been successful in minimizing the appearance of this dark staining by painting the conical section a dark colour and have found that external cleaning has not been required as part of their tank maintenance program. The Region has been contracting a company to power wash the outside of tanks on an ad hoc basis triggered by stain build up or in some cases by residential complaints. Although staining on the exterior surface of elevated tanks has absolutely no impact on drinking water quality inside the tank, visible staining introduces aesthetic concerns that could be mitigated with painting portions of the tank a dark colour. (*See Council Attachment 2*)

4. ANALYSIS AND OPTIONS

Five elevated tanks will have new paint scheme incorporated by 2015

The Region currently has five elevated tanks being constructed over the next two years which include tanks in Keswick, Queensville, Nobleton, King City and Richmond Hill. These tanks can have the conical section painted blue as part of the current construction contract. It is proposed the remaining 26 tanks will have the conical section painted blue at the next scheduled cleaning. For elevated tanks that currently do not have a community identifier or local municipal logo, the Region will confirm with the applicable local municipality if it wishes to fund painting of a community identifier and/or a local municipal logo. In the event the local municipality requests the community identifier and local municipal logo it will be incorporated when the conical section is painted blue.

5. FINANCIAL IMPLICATIONS

In addition to aesthetic improvements, cost savings can be achieved by reducing maintenance requirements

The cost to pressure wash the conical section of each elevated tank is typically \$9,000. There is no cost premium to paint the conical section blue as opposed to white. Elevated tanks are typically repainted every 20 years. Considering that during a 20 year span an elevated tank may need to be power washed on 6 occasions, the overall cost to keep the elevated tank clean is \$54,000 per individual tank. Taking into account that the Region will have 31 tanks in operation by the end of 2012 it will cost approximately \$1,674,000 to power wash all 31 Region owned elevated tanks over a 20 year span. An elevated tank with the conical section painted blue may require a power wash once or twice in the same duration resulting in a cost in the range of \$279,000 to \$558,000 over 20 years. The net maintenance cost savings based on 31 elevated tanks with a blue conical section would be \$1,116,000 to \$1,395,000. Maintenance costs and savings are summarized in Table 1.

Table 1
Maintenance Cost Summary

20-Year Maintenance Cost Scenario	Number of Tanks	Frequency of Pressure Washing over 20-Year Period	Unit Cost per Pressure Wash	Total Cost
Costs to pressure wash elevated tanks with white conical section	31	6 times	\$9,000	\$1,674,000
Costs to pressure wash elevated tanks with blue conical section	31	1 - 2 times	\$9,000	\$279,000 – \$558,000
Estimated cost savings over 20-year period with painting conical sections blue				\$1,116,000 - \$1,395,000

6. LOCAL MUNICIPAL IMPACT

Elevated tanks, when painted with the community name and local municipality logo, serve as identifiers for those respective communities and municipalities. Elevated tanks also serve as reminders and landmarks for local residents and visitors travelling through that community. It is in the best interest of the Region and its local municipalities to maintain elevated tanks in an aesthetically pleasing manner.

7. CONCLUSION

Painting conical sections on elevated tanks blue provides a solution to the negative visual impacts associated with dark staining that naturally occurs on elevated tanks. It also results in significant cost savings by removing the need to conduct power washing as part of ongoing elevated tank maintenance.

For more information on this report, please contact Daniel Kostopoulos, Director, Capital Planning and Delivery, Environmental Services at (905) 830-4444 Ext. 5070.

The Senior Management Group has reviewed this report.

(The two attachments referred to in this clause are attached to this report.)

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APPENDIX "A"

Report No. 15 of the Regional Transportation and Environmental Services Committee

30 POLICY - PAINTING OF WATER STORAGE TANKS

The Transportation and Environmental Services Committee recommends the adoption of the following report, August 31, 1992, from the Commissioner of Environmental Services:

Recommendation

It is recommended that the Regional Policy with respect to the Painting of Elevated Water Tanks be revised to allow for the painting of a Regional identifier and either the Area Municipality or Community name, both in reflex blue and each in no more than two locations on a tank.

Background

On August 27, 1992 Regional Council considered Clause 31 of Report 14 of the Transportation and Environmental Services Committee which recommended against the custom painting of the new Kleinburg elevated tank. The report was referred back to Committee for reconsideration of the current policy.

Regional Policy (dated March 1986) concerning the painting of water storage tanks states:

"Local municipalities are permitted to paint their name on one elevated water storage tank of their choice subject to their paying all costs associated and that the paint being used meets with the approval of the Regional Municipality of York and The Ministry of the Environment."

Upon completion of the new Kleinburg tank, there will be three elevated water tanks in the City of Vaughan. Since neither of the existing two are lettered, the Kleinburg tank could be marked "Vaughan" under the terms of the current policy. The use of "Kleinburg" however, seems to be favoured by the local community.

The Vaughan proposal for painting identifying markings on the new tank in Kleinburg involves large lettering bearing the Community's name and the "bindertwine mouse" in forest green. The additional cost is not yet available, however for comparison, painting "East Gwillimbury" in block letters on the Holland Landing West tank cost \$9,000 in 1990. It is clear that the larger, more detailed Kleinburg proposal will cost considerably more.

Other upper tier municipalities (i.e. Durham Region, Metro Toronto) paint markings on their tanks. The presence of Regional or Metro identifiers on these structures serves to help indicate the services provided by this level of government.

In October, 1984, during the development of the current Regional Policy, it was reported that the use of dark colours for markings on elevated tanks may hasten interior corrosion and accelerate algal growth behind the dark colour. Current experience with the elevated tanks in York Region has shown that the above-noted concern is of little consequence. The reasons for this are felt to be improved preparation, the application of multiple layers and the use of improved acrylic or epoxy based coatings.

To help identify both the services provided by the Region and the Area Municipality or Community, it is considered appropriate to revise the policy with respect to tank painting to allow for

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the painting of a Regional identifier and either the Area Municipality or Community name, both in reflex blue.

(Regional Council at its meeting on September 10, 1992, amended the foregoing Clause by adding thereto the following:

That the Bindertwine insignia be permitted on the Kleinburg Water Tank at the sole expense of the City of Vaughan and that Area Municipal logos be permitted on Water Tanks at the expense of such area municipalities subject to Regional approval.)

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Typical York Region elevated tank with Municipality logo and name on two sides and York Region logo on two sides.



York Region elevated tank with visible dark staining on conical section.



Rendering of elevated tank with conical section painted blue with the York Region logo



Example of other communities painting the conical section blue

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