

COMMITTEE OF THE WHOLE – SEPTEMBER 17, 2002

FINAL ENGINEERING COST REPORT
NASHVILLE WATERMAIN LOCAL IMPROVEMENT

Recommendation

The Commissioner of Engineering and Public Works recommends:

That the final engineering cost report dated August 27, 2002, for the installation of watermain and appurtenances as a local improvement in the Nashville area, be adopted and that the City Clerk be authorized to schedule the Court of Revision.

Purpose

To adopt the final engineering report dated August 27, 2002, for the installation of watermain and appurtenances as a Local improvement in the Nashville area and to authorize the City Clerk to schedule a Court of Revision.

Background - Analysis and Options

The City installed local improvement watermain and appurtenances on Nashville Road, Klein's Ridge, Putting Green Crescent, Coldspring Road, Howland Mill Road and Klein's Crescent in Nashville. The City local improvement watermain work formed part of a York Region trunk watermain contract. Work on this project was completed in June, 1992.

A formal cost report has been prepared to determine the cost to be assessed to the benefiting property owners as outlined in the final Engineering Report comprising Attachment #1.

The following is a comparison between the advertised and final cost:

<u>Item</u>	<u>Estimated Cost</u>	<u>Final Cost</u>
Watermain and Appurtenances	\$ 79.07 per metre	\$ 78.03 per metre
19mm diameter water service connection	\$ 676.34 each	\$2,802.23 each
25mm diameter water service connection	\$1,393.12 each	\$3,381.51 each

The original cost estimate in the Engineer's report for the Nashville Watermain Local Improvement was \$854,364.00. The final cost is \$1,180,265.42 representing a 38.1 percent increase. This increase in cost can be attributed to several factors encountered after tender close and during construction.

M.T.O. Encroachment Permit requirements necessitated a change in watermain alignment from the south side to the north side of Nashville Road. This change involved longer tunnels for service connections, additional valve chambers and additional watermain length. Other changes to the contract included the increase in gauge of tracer wire, installation of valve anchors, insulation of valve chambers and the placement of rip-rap at eroded areas.

During construction, additional unforeseen expenses were incurred because of the implementation of G.S.T. on January 1, 1991, as well as generally poor weather conditions that slowed construction work on the contract revisions which were paid for on a time and materials basis in some cases. Heavy rains also contributed to the silting up of an adjacent resident's pond which required clean out.

While the water service connection cost is higher than originally estimated, the frontage rate has decreased per property. After the commencement of the construction, a large parcel of land on the north side of Nashville Road became subdivided (Kleinburg Hills Estates Phase I and II) and was subject to local improvement charges as well.

Following Council's endorsement of this final Engineering Report, the City Clerk will mail out assessments to each property owner and schedule a Court of Revision.

Conclusion

It is necessary for Council to adopt the final cost report prior to the City Clerk notifying the property owners of the costs and scheduling the Court of Revision.

Attachments

1. Engineering Report
2. Location Map

Report prepared by:

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Respectfully submitted,

Bill Robinson, P. Eng.
Commissioner of Engineering and Public Works

JCZ:MC

August 27, 2002

ATTACHMENT NO. 1

FINAL ENGINEERING REPORT

**RE: THE INSTALLATION OF WATERMAIN AND APPURTENANCES
AS A LOCAL IMPROVEMENT**

The following is the Final Engineering Report as required under the Local Improvement Act for the installation of a watermain, appurtenances and service connections to service the following streets:

Nashville Road	-	from Huntington Road to Hwy. #27
Klein's ridge	-	from Nashville Road to end of cul-de-sac
Putting Green Crescent	-	from Coldspring Road to Coldspring Road
Coldspring Road	-	from Nashville Road to end of cul-de-sac
Howland Mill Road	-	from Nashville Road to end of street
Klein's Crescent	-	from Nashville Road to Nashville Road
Charles Cooper Court	-	from Nashville Road to end of street
Richard Lovat Court	-	from Charles Cooper Court to end of street

The estimated life expectancy of the watermain is sixty (60) years.

FINAL COSTS

1) To construct 3,862 metres of watermain and appurtenances:

Construction cost	\$489,395.86
City of Vaughan forces	\$ 745.63
Miscellaneous costs	\$ 1,432.53
Administration	\$ 18,033.14
Engineering	\$ 81,960.52
Interim financing	<u>\$162,216.64</u>
Total Direct Cost	\$753,784.32

Debenture ($\pm 1\%$ of $\frac{\$753,784.32}{9,724.81} \times 6,508.61$)	\$ 5,047.87
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TOTAL COST OF WATERMAIN \$758,832.19

2) To construct hydrants and secondary valves:

Construction cost	\$ 84,790.16
Administration	\$ 3,122.99
Engineering	\$ 14,193.99
Interim financing	<u>\$ 28,096.86</u>

**COST OF HYDRANTS
AND SECONDARY VALVES \$130,204.00**

3a) To construct (81) 19mm diameter water service connections:

Construction cost	\$146,873.75
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Administration	\$ 5,346.33
Engineering	\$ 24,299.07
Interim financing	<u>\$ 48,212.67</u>

Total Direct Cost \$224,731.82

Debenture (+1% of \$224,731.82) \$ 2,248.73

Cost of 19mm dia. water services \$226,980.55

3b) To construct (19) 25mm diameter water service connections:

Construction cost	\$ 37,884.52
Administration	\$ 1,822.22
Engineering	\$ 8,282.00
Interim financing	<u>\$ 15,623.42</u>

Total Direct Cost \$ 63,612.16

Debenture (+1% of \$63,612.16) \$ 636.52

Cost of 25mm dia. water services \$ 64,248.68

TOTAL COST OF LOCAL IMPROVEMENT \$1,180,265.42

FRONTAGE RATE OF WATERMAIN

Total assessable frontage: 9,724.81 metres (31,905.53 feet)

Total cost of watermain to be assessed
Against frontage: \$758,832.19

Cost per metre frontage: $(758,832.19 \div 9,724.81) =$ \$ 78.03 *

Cost per foot frontage: $(758,832.19 \div 31,905.53) =$ \$ 23.78 *

* cost rounded to two decimal places

HYDRANTS AND SECONDARY VALVES

Total cost to construct hydrants and secondary valves
to be paid by Corporation from the City of Vaughan
Water Reserve Account \$130,204.00

WATER SERVICE CONNECTIONS

a) Total cost to construct (81) 19mm diameter
water service connections to streetline: \$226,980.55

Cost to be assessed per water connection,
19mm diameter - $\$226,980.55 \div 81$ \$ 2,802.23

b) Total cost to construct (19) 25mm diameter
water service connections to streetline: \$ 64,248.68

Cost to be assessed per water connection,

25mm diameter - \$64,248.68 ÷ 19

\$ 3,381.51

COST APPORTIONMENT

REDUCTIONS AND ADJUSTMENTS TO OWNER'S FRONTAGE

In accordance with Section 28 of the Local Improvement Act, reductions and adjustments may be made in computing the frontage of irregularly shaped lots and lots that abut the work on two limits. The following reductions to the Owner's portion have been made:

<u>LOCATION</u>	<u>TOTAL FRONTAGE</u>	<u>REDUCED TO</u>	<u>AMOUNT OF REDUCTION</u>
700 Nashville Rd.	447.31feet	200.00 feet	247.31 feet
420 Nashville Rd.	473.83 feet	323.03 feet	150.80 feet
290 Nashville Rd.	460.00 feet	230.00 feet	230.00 feet
R.P. 210			
Assess. No. 350.355	375.00 feet	187.00 feet	188.00 feet
171 Nashville Rd.	683.43 feet	441.32 feet	242.11 feet
30 Stevenson Ave.	1,283.10 feet	556.98 feet	726.12 feet
34 Coldspring Rd.	499.55 feet	160.00 feet	339.55 feet
76 Coldspring Rd.	257.96 feet	160.00 feet	<u>97.96 feet</u>

Total Reduction 2,221.85 feet
(677.22 metres)

(677.22 metres is included in the Corporation's share)

Corporation's Share

The Corporation's share of assessable frontage = 3,216.20 metres (10,551.84 feet)
(Note: includes 677.22 metres of reductions and adjustments from Owner's frontage).

The Corporation's share of watermain cost 3,216.20 x \$78.03 \$250,961.83

Hydrants and secondary valves \$130,204.00

TOTAL CORPORATION'S SHARE \$381,165.83

(The Corporation's share to be paid from the City of Vaughan Water Reserve Account)

Owner's Share

The Owner's share of assessable frontage = 6,508.61 metres (21,353.69 feet)

The Owner's share of watermain cost 6,508.61 x \$78.03 \$507,870.36

Water service connections

a) 19mm diameter \$226,980.55

b) 25mm diameter \$ 64,248.68

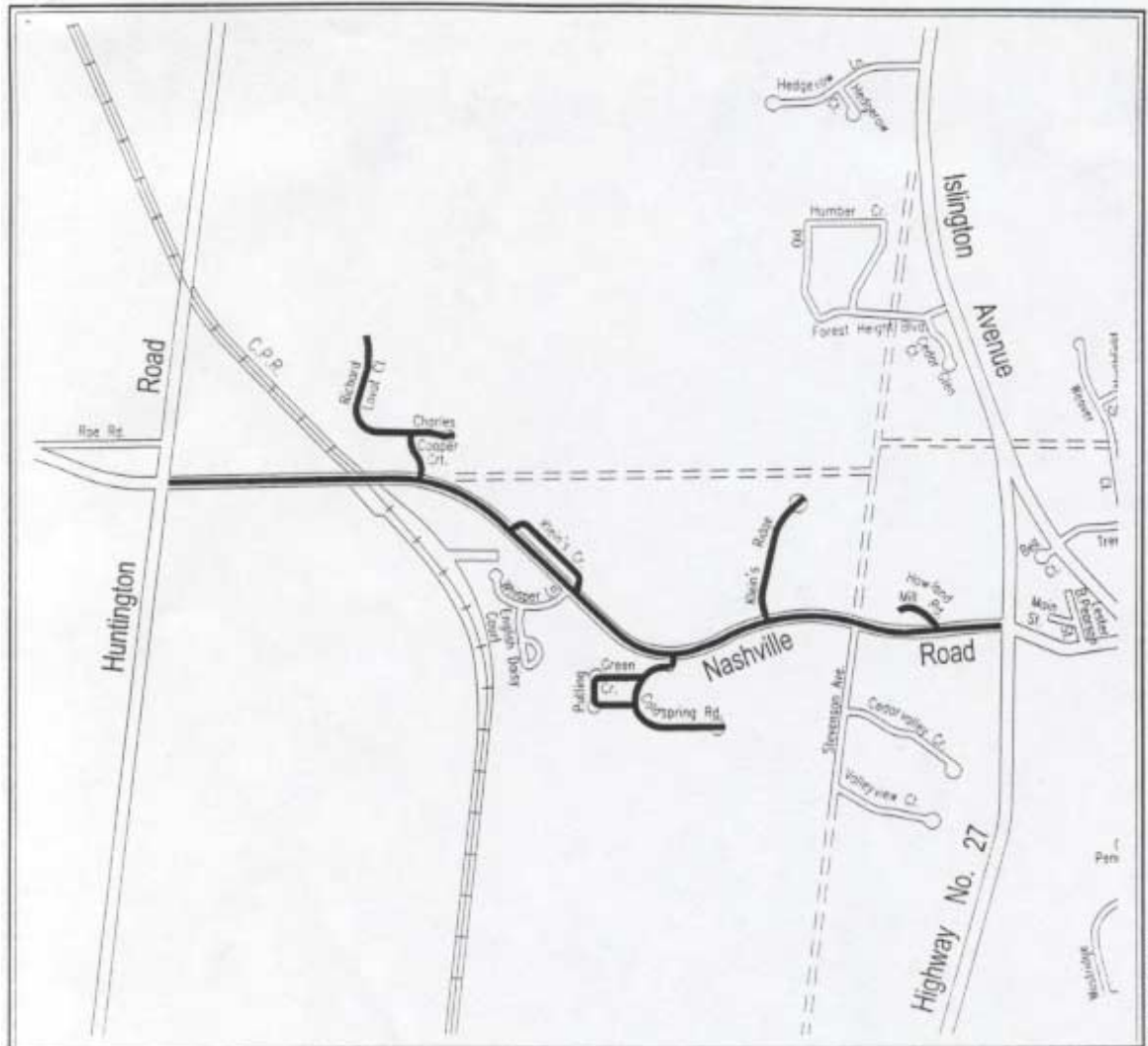
TOTAL OWNER'S SHARE \$799,099.59

The special assessment may be paid as a lump sum or in 10 annual installments.

TOTAL COST OF LOCAL IMPROVEMENT	<u>1,180,265.42</u>
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Wm. E. Robinson, P. Eng.
Commissioner of Engineering and Public Works

ATTACHMENT No. 2



NASHVILLE LOCAL IMPROVEMENT WATERMAIN & APPURTENANCES

LEGEND

 AREA SERVED UNDER LOCAL IMPROVEMENT



NOT TO SCALE

CITY OF VAUGHAN - ENGINEERING DEPARTMENT

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