



Tender 011-T-22 Winter Road Maintenance Services

September 6, 2022



Purpose

Subsequent to the July 11, 2022 Development Services Committee meeting on Winter Road Maintenance Services Award, Council Resolution #8.3.2.7, more detail on Part A

- Winter Road Services Utilizing Single and Tandem Axle Windrow Units, Options 1-7, including the tax rate increase
- A modified Option 5, which includes increasing the local roads service level with no sidewalks to 5cm and senior windrow removal within the current 8 hour window



Recommendation

- That presentation entitled “Tender 011-T-22 Winter Road Maintenance Services” be received; and,
- That Council adopts plowing all local roads at 7.5cm and Senior Windrow to be completed in four (4) hours, be awarded for twelve (12) winter seasons (November 16, 2024 – April 15, 2036) in the estimated annual amount of **\$7,802,885.98** (inclusive of HST); and
- That the estimated budget shortfall of **\$1,665,086** be phased in over a 3-year period commencing in 2023 and be included as part of the 2023-2025 operating budgets, subject to Council approval of the 2023-2025 operating budgets;



Assumptions

Plowing Local Roads	7.5 cm	5 cm	Primary
Average Winter Events (days)	5	8	44
Average Salt Usage (t)	23,687	26,178	34,114
Single Axle/Tandem Axle Hours	300	480	660
Senior Windrow Equipment	30	60	46
Citywide Windrow Equipment	46	46	46
Windrow Hours	250	125	80
Loader Hours	80	128	192
Load and Haul - Citywide	3	4	6
Driveways - Senior	7,500	7,500	7,500
Driveways - Citywide	82,000	82,000	82,000

Source:

- Environment Canada Weather (based on five (5) year average)
- City of Markham Winter Tracker (based on five (5) year average)
- Environment Canada Salt Reports (based on five (5) year average)

Load & Haul:

Source – Recent tender with Richmond Hill

Description	Est. Hours	Unit Price Per Hour	Extended Price	Price Per km
Crew and Equipment for removing snow and hauling to designated snow dump (RH 1080 km of roads)	185	\$ 2,291.60	\$ 423,946.31	\$ 392.54
Crew and Equipment for removing snow and hauling to designated snow dump (Markham 2250 km of Roads)	385	\$ 2,291.60	\$ 883,215.00	\$ 392.54



Overall Cost

Option	Description	Total Cost	Status Quo	Incremental Impact Above Status Quo	Tax Impact - comparing to 2022 WM budget
1	Status Quo (Plowing at 7.5cm + 8 hours Senior Windrow)	\$ 7,397,779.42	\$ 7,397,779.42	\$0	0.95%
3	Plowing at 7.5cm + 4 hours Senior Windrow	\$ 7,802,885.98	\$ 7,397,779.42	\$405,107	1.19%
4	Plowing at 7.5cm + 8 hours Citywide Windrow	\$ 10,514,539.45	\$ 7,397,779.42	\$3,116,760	2.79%
5	Plowing at 5cm + 8 hours Senior Windrow	\$ 10,588,512.77	\$ 7,397,779.42	\$3,190,733	2.83%
6	Plowing at 5cm + 4 hours Senior Windrow	\$ 11,062,307.33	\$ 7,397,779.42	\$3,664,528	3.11%
7	Plowing at 5cm + 8 hours Citywide Windrow	\$ 14,638,248.44	\$ 7,397,779.42	\$7,240,469	5.22%
Councillor Irish	Everything Primary + 8 hours Senior Windrow	\$ 14,372,641.10	\$ 7,397,779.42	\$6,974,861	5.07%
Councillor Irish	Everything Primary + 4 hours Senior Windrow	\$ 14,879,063.99	\$ 7,397,779.42	\$7,481,284	5.36%
Councillor Irish	Everything Primary + 8 hours Citywide Windrow	\$ 20,196,198.62	\$ 7,397,779.42	\$12,798,418	8.50%
Councillor McAlpine	Plowing at 5cm (inc no SW) & Plowing at 7.5cm (with SW) + 8 hour Sr Windrow	\$ 9,619,280.12	\$ 7,397,779.42	\$2,221,500	2.26%



Opt 1 - Status Quo (Plowing at 7.5cm + 8 hours Senior Windrow)

- Plowing
 - \$3,956,835.84
- Windrows
 - \$863,026.56
- Loaders (Back Lanes & Cul-de-sac)
 - \$2,577,917.02

Total Cost = \$7,397,779.42



❖ *There is no extra cost or salt added to this option*



Opt 3 - Plowing at 7.5cm + 4 hours Senior Windrow (Recommended)

- Plowing
 - \$3,956,835.84
- Windrows
 - \$1,268,133.12
- Loaders (Back Lanes & Cul-de-sac)
 - \$2,577,917.02

Total Cost = \$7,802,885.98



❖ *There is no extra cost or salt added to this option*



Opt 4 - Plowing at 7.5cm + 8 hours Citywide Windrow

- Plowing
 - \$3,956,835.84
- Windrows
 - \$3,979,786.59
- Loaders (Back Lanes & Cul-de-sac)
 - \$2,577,917.02

Total Cost = \$10,514,539.45

❖ *There is no extra cost or salt added to this option*





Opt 5 - Plowing at 5cm + 8 hours Senior Windrow

- Plowing
 - \$5,485,617.02
- Windrows
 - \$1,206,466.56
- Salt
 - \$213,365.35
- Loaders (Back Lanes & Cul-de-sac)
 - \$3,683,063.83

Total Cost = \$10,588,512.77





Opt 6 - Plowing at 5cm + 4 hours Senior Windrow

- Plowing
 - \$5,485,617.02
- Windrows
 - \$1,680,261.12
- Salt
 - \$213,365.35
- Loaders (Back Lanes & Cul-de-sac)
 - \$3,683,063.83

Total Cost = \$11,062,307.33





Opt 7 - Plowing at 5cm + 8 hours Citywide Windrow

- Plowing
 - \$5,485,617.02
- Windrows
 - \$5,256,202.23
- Salt
 - \$213,365.35
- Loaders (Back Lanes & Cul-de-sac)
 - \$3,683,063.83

Total Cost = \$14,638,248.44





Councillor McAlpine - Plowing at 5cm (include no Sidewalk) & Plowing at 7.5cm (with Sidewalk) + 8 hour Senior Windrow

- Plowing
 - \$5,258,122.37
- Windrows
 - \$1,135,438.08
- Salt
 - \$99,229.25
- Loaders (Back Lanes & Cul-de-sac)
 - \$3,130,490.42

Total Cost = \$9,619,280.12





Councillor Irish - Everything Primary + 8 hours Senior Windrow

- Plowing
 - \$6,243,932.54
- Windrows
 - \$1,723,342.23
- Salt
 - \$1,248,773.41
- Loaders (Back Lanes & Cul-de-sac)
 - \$5,156,592.92

Total Cost = \$14,372,641.10





Councillor Irish - Everything Primary + 4 hours Senior Windrow

- Plowing
 - \$6,243,932.54
- Windrows
 - \$2,229,765.12
- Salt
 - \$1,248,773.41
- Loaders (Back Lanes & Cul-de-sac)
 - \$5,156,592.92

Total Cost = \$14,879,063.99





Councillor Irish - Everything Primary + 8 hours Citywide Windrow

- Plowing
 - \$6,243,932.54
- Windrows
 - \$7,546,899.75
- Salt
 - \$1,248,773.41
- Loaders (Back Lanes & Cul-de-sac)
 - \$5,156,592.92

Total Cost = \$20,196,198.62





Recommendation

- That Council adopts plowing all local roads at 7.5cm and Senior Windrow to be completed in four (4) hours, be awarded for twelve (12) winter seasons (November 16, 2024 – April 15, 2036) in the estimated annual amount of **\$7,802,885.98** (inclusive of HST)



Any Questions?