
Appendix H
Opinion of Probable Costs



JOB No. 28243
 PROJECT Midland Wastewater Master Plan
 CLIENT Town of Midland
 DATE Oct. 12, 2020 BY EJW

OPINION OF PROBABLE COST

CLASS D COST ESTIMATE

Expand the Equalization Storage (new 1,800 m3 tank)

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT RATE</u>	<u>TOTAL</u>
1	Modifications to the existing flow distribution chamber, if required	1	s.s	\$25,000.00	\$25,000
2	Excavation and backfill for new tank construction	1	s.s	\$210,000	\$210,000
3	Concrete works bottom and sides	1	s.s	\$580,000	\$580,000
4	Concrete cover	1	s.s	\$81,000	\$81,000
5	Equalization Storage Pumping	1	s.s	\$750,000	\$750,000
				SUB-TOTAL	\$1,646,000
<u>ENGINEERING AND CONTINGENCY</u>					
	General Contractor O&P (15% of Construction Cost)	1	s.s	\$246,900	\$246,900
	Contingency Allowance (25% of Construction Cost)	1	s.s	\$411,500	\$411,500
	Engineering Design and Assistance During Tendering and Construction 18%	1	s.s	\$414,792	\$414,792
				SUB-TOTAL	\$1,073,192
TOTAL CAPITAL PROJECT COSTS					\$2,720,000
(Rounded, in 2020 Dollars, HST Not Included)					

OPINION OF PROBABLE COST
CLASS D COST ESTIMATE
Treatment Alternatives - Expand at Same Site with Current Technology

<u>ITEM</u>	<u>DESCRIPTION - New Headworks Building</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT RATE</u>	<u>TOTAL</u>
1	Screening Equipment	1	s.s	\$320,000	\$320,000
2	Grit Removal Equipment	1	s.s	\$680,000	\$680,000
3	New Headworks Building w/ Tanks and Channels	1	s.s	\$900,000	\$900,000
4	Miscellaneous Equipment (e.g. gates, flow meters, ect)	1	s.s	\$500,000	\$500,000
5	Odour Control (if required)	1	s.s	\$90,000	\$90,000
				SUB-TOTAL	\$2,490,000

ENGINEERING AND CONTINGENCY

	General Contractor O&P (15% of Construction Cost)	1	s.s	\$373,500	\$373,500
	Contingency Allowance (25% of Construction Cost)	1	s.s	\$622,500	\$622,500
	Engineering Design and Assistance During Tendering and Construction 18%	1	s.s	\$627,480	\$627,480
				SUB-TOTAL	\$1,623,480

TOTAL CAPITAL PROJECT COSTS \$4,100,000

(Rounded, in 2020 Dollars, HST Not Included)

<u>ITEM</u>	<u>DESCRIPTION - Additional Aeration System Equipment</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT RATE</u>	<u>TOTAL</u>
1	Replace mechanical aerators with blowers and fine bubble diffusers	1	s.s	\$700,000	\$700,000
2	Replace Broken Inlet Gates and Effluent Tipping Gates	1	s.s	\$350,000	\$350,000
3	Additional blower - for growth	1	s.s	\$60,000	\$60,000
4	Additional diffusers - for growth	1	s.s	\$250,000	\$250,000
5	Increase in piping size - for growth	1	s.s	\$150,000	\$150,000
6	Electrical supply - for growth	1	s.s	\$25,000	\$25,000
7	I&C work and SCADA integration - for growth	1	s.s	\$15,000	\$15,000
				SUB-TOTAL	\$1,550,000

ENGINEERING AND CONTINGENCY

	General Contractor O&P (15% of Construction Cost)	1	s.s	\$232,500	\$232,500
	Contingency Allowance (25% of Construction Cost)	1	s.s	\$387,500	\$387,500
	Engineering Design and Assistance During Tendering and Construction 18%	1	s.s	\$390,600	\$390,600
				SUB-TOTAL	\$1,010,600

\$790,000.00 Expansion Only

TOTAL CAPITAL PROJECT COSTS \$2,600,000

(Rounded, in 2020 Dollars, HST Not Included)

<u>ITEM</u>	<u>New Secondary Clarifier (Same as Size of Existing Clarifiers):</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT RATE</u>	<u>TOTAL</u>
1	Excavation and backfill for new tank construction	1	s.s	\$210,000	\$210,000
2	Modifications to the existing flow distribution chamber	1	s.s	\$25,000	\$25,000
3	New 750 mm dia. pipe between flow distribution chamber and center of new clarifier	1	s.s	\$50,000	\$50,000
4	New 250 mm dia. RAS lines between center of new clarifier and sludge building	1	s.s	\$35,000	\$35,000
5	New clarifier 675 mm dia. effluent pipe between the clarifier and the existing flow distribution chamber	1	s.s	\$40,000	\$40,000
6	New clarifier scum collection pipe between the clarifier and the existing scum collection manhole	1	s.s	\$15,000	\$15,000
7	Concrete works	1	s.s	\$640,000	\$640,000
8	Clarifier mechanical equipment	1	s.s	\$590,000	\$590,000
9	New RAS pumps c/w piping and valves	1	s.s	\$200,000	\$200,000
10	Electrical works (clarifier)	1	s.s	\$10,000	\$10,000
11	Electrical works (new RAS pump)	1	s.s	\$25,000	\$25,000
12	I&C work and SCADA integration (clarifier)	1	s.s	\$5,000	\$5,000
13	I&C work and SCADA integration (new RAS pump)	1	s.s	\$10,000	\$10,000
				SUB-TOTAL	\$1,855,000

ENGINEERING AND CONTINGENCY

	General Contractor O&P (15% of Construction Cost)	1	s.s	\$278,250	\$278,250
	Contingency Allowance (25% of Construction Cost)	1	s.s	\$463,750	\$463,750
	Engineering Design and Assistance During Tendering and Construction 18%	1	s.s	\$467,460	\$467,460
				SUB-TOTAL	\$1,209,460

TOTAL CAPITAL PROJECT COSTS \$3,070,000

(Rounded, in 2020 Dollars, HST Not Included)

<u>ITEM</u>	<u>New UV Disinfection System:</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT RATE</u>	<u>TOTAL</u>
1	Temporary UV disinfection system (install in pass No. 3 channel of the existing contact chamber)	1	s.s	\$150,000	\$150,000
2	Site works (manoeuver area around new building)	1	s.s	\$30,000	\$30,000
3	Modifications to the existing channels (concrete works)	1	s.s	\$150,000	\$150,000
4	UV disinfection equipment (two (2) UV banks with a capacity each of 49.5 MLD)	1	s.s	\$520,000	\$520,000
5	New sluice gates c/w actuators (inlet and outlet)	1	s.s	\$100,000	\$100,000
6	New building - 10 x 10 m (with UV banks room and electrical/control cabinets room)	1	s.s	\$250,000	\$250,000
7	Heating, ventilation and lighting inside the new building	1	s.s	\$80,000	\$80,000
8	Power supply to the new building	1	s.s	\$50,000	\$50,000
9	New MCCs	1	s.s	\$80,000	\$80,000
10	Electrical distribution inside the building (lighting, heating and process equipment)	1	s.s	\$60,000	\$60,000
11	I&C work and SCADA integration	1	s.s	\$100,000	\$100,000
12	Decommissioning of existing sodium hypochlorite and sodium bisulfite equipment	1	s.s	\$30,000	\$30,000
				SUB-TOTAL	\$1,600,000

ENGINEERING AND CONTINGENCY

	General Contractor O&P (15% of Construction Cost)	1	s.s	\$240,000	\$240,000
	Contingency Allowance (25% of Construction Cost)	1	s.s	\$400,000	\$400,000
	Engineering Design and Assistance During Tendering and Construction 18%	1	s.s	\$403,200	\$403,200
				SUB-TOTAL	\$1,043,200

TOTAL CAPITAL PROJECT COSTS \$2,650,000

(Rounded, in 2020 Dollars, HST Not Included)

ITEM New primary Clarifier (Same as Size of Existing Clarifiers):

1	Excavation and backfill for new tank construction	1	s.s	\$136,500	\$136,500
2	Modifications to the existing flow distribution chamber	1	s.s	\$25,000	\$25,000
3	New pipe between flow distribution chamber and center of new clarifier	1	s.s	\$50,000	\$50,000
5	New clarifier effluent pipe between the clarifier and the existing flow distribution chamber	1	s.s	\$40,000	\$40,000
6	New clarifier scum collection pipe between the clarifier and the existing scum collection manhole	1	s.s	\$15,000	\$15,000
7	Concrete works	1	s.s	\$420,000	\$420,000
8	Clarifier mechanical equipment	1	s.s	\$390,000	\$390,000
10	Electrical works (clarifier)	1	s.s	\$10,000	\$10,000
12	I&C work and SCADA integration (clarifier)	1	s.s	\$5,000	\$5,000
				SUB-TOTAL	\$1,091,500

ENGINEERING AND CONTINGENCY

	General Contractor O&P (15% of Construction Cost)	1	s.s	\$163,725	\$163,725
	Contingency Allowance (25% of Construction Cost)	1	s.s	\$272,875	\$272,875
	Engineering Design and Assistance During Tendering and Construction 18%	1	s.s	\$275,058	\$275,058
				SUB-TOTAL	\$711,658

TOTAL CAPITAL PROJECT COSTS \$1,810,000
(Rounded, in 2020 Dollars, HST Not Included)

ITEM New Septage Receiving Station - Option A

1	New Building with Tanks	1	s.s	\$1,500,000	\$1,700,000
2	New Mixers, Process Pumps, Piping	1	s.s	\$500,000	\$500,000
3	Odour Control System	1	s.s	\$300,000	\$300,000
4	Building HVAC	1	s.s	\$150,000	\$150,000
5	Electrical works	1	s.s	\$20,000	\$50,000
6	I&C work and SCADA integration	1	s.s	\$5,000	\$5,000
7	Civil Modifications (e.g. fencing/keypad)	1	s.s	\$30,000	\$30,000
				SUB-TOTAL	\$2,735,000

ENGINEERING AND CONTINGENCY

	General Contractor O&P (15% of Construction Cost)	1	s.s	\$410,250	\$410,250
	Contingency Allowance (25% of Construction Cost)	1	s.s	\$683,750	\$683,750
	Engineering Design and Assistance During Tendering and Construction 18%	1	s.s	\$689,220	\$689,220
				SUB-TOTAL	\$1,783,220

TOTAL CAPITAL PROJECT COSTS \$4,520,000
(Rounded, in 2020 Dollars, HST Not Included)

ITEM Upgrade Existing Septage Receiving Station - Option B

1	Rehab/Refurbish Existing Tanks and Add Covers	1	s.s	\$400,000	\$400,000
2	Replace Mixers, Process Pumps, Piping	1	s.s	\$300,000	\$300,000
3	Odour Control System	1	s.s	\$300,000	\$300,000
4	Building HVAC	1	s.s	\$150,000	\$150,000
5	Electrical works	1	s.s	\$20,000	\$20,000
6	I&C work and SCADA integration	1	s.s	\$5,000	\$5,000
7	Civil Modifications (e.g. fencing/keypad)	1	s.s	\$15,000	\$30,000
				SUB-TOTAL	\$1,205,000

ENGINEERING AND CONTINGENCY

	General Contractor O&P (15% of Construction Cost)	1	s.s	\$180,750	\$180,750
	Contingency Allowance (25% of Construction Cost)	1	s.s	\$301,250	\$301,250
	Engineering Design and Assistance During Tendering and Construction 18%	1	s.s	\$303,660	\$303,660
				SUB-TOTAL	\$785,660

TOTAL CAPITAL PROJECT COSTS \$1,990,000
(Rounded, in 2020 Dollars, HST Not Included)

Version: 2020-08-28 BP

20 Year Infrastructure Upgrades

System Component	Description	Trunk	Name	Tag		Inlet Node	Outlet Node	Length (m)	Geom1 (m)	Geom1 (m)			Unit Rate	Total
		Trunk Name	Pipe ID		Proposed Upgrade	Upstream MH	Downstream MH	Length (m)	Old Diameter (m)	New Diameter (m)	U/S Depth (m)	D/S Depth (m)		
Upsize two sections of 450 mm diameter pipe immediately upstream of the Bayport #1 SPS to 525 mm. This upgrade is required to maintain the level of service at the upstream manhole with the additional population loading. The sewer to be upgraded is approximately 132 m.	Bayshore	SAS107	Upgrade	Pipe Upsize		MH974	SPS1	57.45	0.45	0.525	4.61	8.577	\$2,654.40	\$ 152,495.28
Upgrade approximately 100 m of sewer on William Street between the intersection of Barnett Avenue and Aberdeen Avenue, along with approximately 50 m of sewer entering the WWTP to 825mm. This replacement is imbedded in the upgrades to the Yonge Trunk.	Bayshore	SAS106	Upgrade	Pipe Upsize		MH1123	MH974	74.143	0.45	0.525	3.72	4.54	\$2,654.40	\$ 196,805.18
	WWTP	SAS634	1 Upgrade	Pipe Upsize		MH2650	MH1655	22.916	0.6	0.825	1.788	1.42	\$3,024.40	\$ 69,307.15
Upgrade 113 m of sewer on William Street from the intersection of Elizabeth Street running south.	WWTP	SAS634	Upgrade	Pipe Upsize		MH1653	MH2650	22.916	0.6	0.825	1.83	1.788	\$3,024.40	\$ 69,307.15
														\$ 441,825.52
Upgrade and regrade 392 m of sewer on the west of Yonge Street at the intersection of William Street.	WWTP	SAS834	Upgrade	Pipe Upsize		MH1650	MH1653	100.255	0.75	0.825	1.86	1.83	\$3,024.40	\$ 303,211.22
														\$ 1,458,229.63
Upgrade 81 m of sewer on the Yonge Trunk around the split in the trunk at King Street and Colborne Street. Proposed pipes range in diameter from 525 mm to 750 mm.	Yonge	SAS948	Upgrade	Pipe Upsize		MH1786	MH1627	112.297	0.675	0.75	2.66	2.59	\$2,984.40	\$ 335,139.17
	Yonge	SAS26	Upgrade	Regrade and Pipe Upsize		MH1921	MH1637	18.492	0.6	0.675	3.071	3.1	\$1,180.00	\$ 21,820.56
	Yonge	SAS812	Upgrade	Regrade and Pipe Upsize		MH1638	MH1921	62.141	0.6	0.675	2.665	3.071	\$1,180.00	\$ 73,326.38
	Yonge	SAS813	Upgrade	Regrade and Pipe Upsize		MH1639	MH1638	134.202	0.6	0.675	2.744	2.665	\$1,180.00	\$ 158,358.36
	Yonge	SAS817	Upgrade	Regrade and Pipe Upsize		MH1643	MH1639	87.494	0.6	0.675	2.915	2.744	\$1,180.00	\$ 103,242.92
	Yonge	SAS818	Upgrade	Regrade and Pipe Upsize		MH2044	MH1643	89.975	0.6	0.675	2.365	2.915	\$1,180.00	\$ 106,170.50
	Yonge	SAS1451	Upgrade	Pipe Upsize		MH1105	MH2431	12.275	0.3	0.675	2.7	5.05	\$2,909.40	\$ 35,712.89
	Yonge	SAS221	Upgrade	Pipe Upsize		MH2037	MH1105	61.046	0.3	0.525	3.74	2.69	\$2,654.40	\$ 162,040.50
	Yonge	SAS1229	Upgrade	Pipe Upsize		MH1106	MH2037	7.758	0.3	0.525	3.95	3.73	\$2,654.40	\$ 20,592.84
Regrade and upsize of 43 m of sewer just upstream of the WWTP. This replacement is imbedded in the upgrades to the Pillsbury Trunk.	WWTP	SAS835	Upgrade	Regrade and Pipe Upsize		MH1654	MH1655	20.65	0.6	0.9	1.703	1.42	\$3,194.40	\$ 65,964.36
														\$ 138,291.96
Upgrade of 520 m of sewer of sewer immediately upstream of the WWTC along the Pillsbury Trunk. The Pillsbury Trunk to be replaced is parallel to William Street running south on grassed areas before conveying to the east of Elizabeth Street	WWTP	SAS836	Upgrade	Regrade and Pipe Upsize		MH1656	MH1654	22.642	0.6	0.9	1.38	1.703	\$3,194.40	\$ 72,327.60
														\$ 1,580,879.93
	Pillsbury	SAS837	Upgrade	Pipe Upsize		MH1657	MH1656	86.778	0.6	0.9	2.17	1.38	\$3,194.40	\$ 277,203.64
	Pillsbury	SAS838	Upgrade	Pipe Upsize		MH2588	MH1657	69.242	0.6	0.75	2.59	2.13	\$2,984.40	\$ 206,645.82
	Pillsbury	SAS1519	Upgrade	Pipe Upsize		MH1658	MH2588	35.973	0.6	0.75	2.44	2.57	\$2,984.40	\$ 107,357.82
	Pillsbury	WILLIAM	Upgrade	Pipe Upsize		MH1659	MH1658	4.784	0.6	0.75	2.72	2.44	\$2,984.40	\$ 14,277.37
	Pillsbury	SAS840	Upgrade	Pipe Upsize		MH1660	MH1659	108.271	0.6	0.75	2.64	2.72	\$2,984.40	\$ 323,123.97
	Pillsbury	SAS841	Upgrade	Pipe Upsize		MH1623	MH1660	94.291	0.6	0.75	3.69	2.62	\$2,984.40	\$ 281,402.06
Pillsbury	SAS802	Upgrade	Pipe Upsize		MH1624	MH1623	77.931	0.6	0.75	3.06	3.66	\$2,984.40	\$ 232,577.28	
1383.922												\$ 3,388,410.02		

40 Year Infrastructure Upgrades

Trunk Name	Description	Pipe ID	Proposed Upgrade	Upstream MH	Downstream MH	Length (m)	Old Diameter (m)	New Diameter (m)	U/S Invert	D/S Invert	U/S MH T/G (m)	D/S MH T/G (m)	U/S Depth (m)	D/S Depth (m)	Unit Rate	Total
Pilsbury	DWF Upgrades (Best Case)	SAS1167	Increase DWF Capacity	MH983	MH2001	92.315	0.500	0.500	191.476	191.118	192.986	192.986	1.51	1.868	\$2,634.40	\$ 243,194.64
Pilsbury	DWF Upgrades (Best Case)	SAS1171	Increase DWF Capacity	MH2004	MH2005	104.863	0.600	0.600	190.120	189.819	193.190	193.190	3.07	3.371	\$2,774.40	\$ 290,931.91
Yonge	DWF Upgrades (Best Case)	SAS1382	Increase DWF Capacity	MH2111	MH1021	23.179	0.450	0.450	223.515	223.338	226.935	226.935	3.42	3.597	\$2,594.40	\$ 60,135.60
Yonge	DWF Upgrades (Best Case)	SAS1086	Increase DWF Capacity	MH1021	MH1927	89.672	0.450	0.450	223.338	222.651	226.350	226.350	3.012	3.699	\$2,594.40	\$ 232,645.04
Pilsbury	DWF Upgrades (Worst Case)	SAS1115	Increase DWF Capacity	MH1956	MH1957	70.51	0.350	0.450	196.892	196.593	199.152	199.152	2.26	2.559	\$2,594.40	\$ 182,931.14
Pilsbury	DWF Upgrades (Worst Case)	SAS67	Increase DWF Capacity	MH1961	MH1961A	46.284	0.450	0.450	193.519	193.219	198.799	198.799	5.28	5.58	\$2,594.40	\$ 120,079.21
Pilsbury	DWF Upgrades (Worst Case)	SAS68	Increase DWF Capacity	MH1961A	MH2587	58.481	0.450	0.450	193.219	192.880	198.667	198.667	5.448	5.787	\$2,594.40	\$ 151,723.11
Pilsbury	DWF Upgrades (Worst Case)	SAS69	Increase DWF Capacity	MH2587	MH1974	125.715	0.450	0.525	192.840	192.416	198.500	198.500	5.66	6.084	\$2,654.40	\$ 333,697.90
Pilsbury	DWF Upgrades (Worst Case)	SAS1167	Increase DWF Capacity	MH983	MH2001	92.315	0.500	0.500	191.476	191.118	192.986	192.986	1.51	1.868	\$2,634.40	\$ 243,194.64
Pilsbury	DWF Upgrades (Worst Case)	SAS1171	Increase DWF Capacity	MH2004	MH2005	104.863	0.600	0.600	190.120	189.819	193.190	193.190	3.07	3.371	\$2,774.40	\$ 290,931.91
Yonge	DWF Upgrades (Worst Case)	SAS1382	Increase DWF Capacity	MH2111	MH1021	23.179	0.450	0.450	223.515	223.338	226.935	226.935	3.42	3.597	\$2,594.40	\$ 60,135.60
Yonge	DWF Upgrades (Worst Case)	SAS1086	Increase DWF Capacity	MH1021	MH1927	89.672	0.450	0.450	223.338	222.651	226.350	226.350	3.012	3.699	\$2,594.40	\$ 232,645.04
Yonge	DWF Upgrades (Worst Case)	SAS671	Increase DWF Capacity	MH1485	MH1483	112.795	0.675	0.675	194.695	194.305	199.444	199.444	4.749	5.139	\$2,909.40	\$ 328,165.77
\$2,770,411.48																

40 Year Infrastructure Upgrades

Trunk	Name	Inlet Node	Outlet Node	Length (m)	Geom1 (m)	Geom1 (m)	Inlet Elev. (m)	Outlet Elev. (m)	Lim Elev. (m)	Lim Elev. (m)	U/S MH T/G (m)	D/S MH T/G (m)	U/S Depth (m)	D/S Depth (m)	Unit Rate	Total
Trunk Name	Description	Pipe ID	Proposed Upgrade	Upstream MH	Downstream MH	Length (m)	Old Diameter (m)	New Diameter (m)	U/S Invert	D/S Invert	U/S MH T/G (m)	D/S MH T/G (m)	U/S Depth (m)	D/S Depth (m)	Unit Rate	Total
Bayshore	All Options - Bayshore Upgrades	SAS1202	Pipe Upsize	MH2014	MH1119	50.935	0.675	0.675	178.476	178.273	181.865	181.865	3.389	3.592	\$2,909.40	\$ 148,190.29
Bayshore	All Options - Bayshore Upgrades	SAS1203	Pipe Upsize	MH1129	MH2014	110.363	0.675	0.675	178.918	178.476	180.818	180.818	1.9	2.342	\$2,909.40	\$ 321,090.11
Bayshore	All Options - Bayshore Upgrades	SAS244	Pipe Upsize	MH1326A	MH1129	55.634	0.600	0.600	179.141	178.918	181.959	181.959	2.818	3.041	\$2,774.40	\$ 154,350.97
Bayshore	All Options - Bayshore Upgrades	SAS266	Pipe Upsize	MH1326	MH1326A	64.836	0.600	0.600	179.401	179.141	183.288	183.288	3.887	4.147	\$2,774.40	\$ 179,881.00
Bayshore	All Options - Bayshore Upgrades	SAS368	Pipe Upsize	MH1133	MH1326	53.196	0.530	0.530	179.614	179.401	182.334	182.334	2.72	2.933	\$2,664.40	\$ 141,735.42
Pilsbury	Options 1 and 3 - Downstream of William Street	SAS69	Pipe Upsize	MH2587	MH1974	125.715	0.450	0.525	192.840	192.416	198.500	198.500	5.66	6.084	\$2,654.40	\$ 333,697.90
Pilsbury	Options 1 and 3 - Downstream of William Street	SAS68	Pipe Upsize	MH1961A	MH2587	58.481	0.450	0.450	193.219	192.880	198.667	198.667	5.448	5.787	\$2,594.40	\$ 151,723.11
Pilsbury	Options 1 and 3 - Downstream of William Street	SAS67	Pipe Upsize	MH1961	MH1961A	46.284	0.450	0.450	193.519	193.219	198.799	198.799	5.28	5.58	\$2,594.40	\$ 120,079.21
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS74	Pipe Upsize	MH916	MH909	106.866	0.400	0.450	195.124	194.635	198.914	198.914	3.79	4.279	\$2,594.40	\$ 277,253.15
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1117	Pipe Upsize	MH1959	MH916	89.464	0.350	0.450	195.610	195.134	198.490	198.490	2.88	3.356	\$2,594.40	\$ 232,105.40
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1116	Pipe Upsize	MH1957	MH1959	165.531	0.350	0.450	196.533	195.610	198.583	198.583	2.05	2.973	\$2,594.40	\$ 429,453.63
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1115	Pipe Upsize	MH1956	MH1957	70.51	0.350	0.450	196.892	196.593	199.152	199.152	2.26	2.559	\$2,594.40	\$ 182,931.14
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1114	Pipe Upsize	MH1955	MH1956	101.067	0.350	0.450	197.414	196.892	199.494	199.494	2.08	2.602	\$2,594.40	\$ 262,208.22
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1113	Pipe Upsize	MH1958	MH1955	103.488	0.350	0.450	198.013	197.434	199.633	199.633	1.62	2.199	\$2,594.40	\$ 268,489.27
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1112	Pipe Upsize	MH1954	MH1958	105.359	0.350	0.450	198.544	198.023	200.324	200.324	1.78	2.301	\$2,594.40	\$ 273,343.39
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1111	Pipe Upsize	MH1953	MH1954	127.565	0.350	0.450	199.214	198.554	202.584	202.584	3.37	4.03	\$2,594.40	\$ 330,954.64
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1110	Pipe Upsize	MH1952	MH1953	61.835	0.375	0.450	199.955	199.682	202.298	202.298	2.343	2.616	\$2,594.40	\$ 160,424.72
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1109	Pipe Upsize	MH1951	MH1952	97.252	0.375	0.450	200.390	199.985	202.733	202.733	2.343	2.748	\$2,594.40	\$ 252,310.59
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1108	Pipe Upsize	MH1950	MH1951	114.949	0.375	0.450	200.899	200.391	203.242	203.242	2.343	2.851	\$2,594.40	\$ 298,223.69
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1539	Pipe Upsize	MH2624	MH1950	103.448	0.375	0.450	201.405	200.926	203.748	203.748	2.343	2.822	\$2,594.40	\$ 268,385.49
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1107	Pipe Upsize	MH1937	MH2624	63.477	0.375	0.450	201.692	201.426	204.035	204.035	2.343	2.609	\$2,594.40	\$ 164,684.73
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1106	Pipe Upsize	MH1938	MH1937	83.111	0.375	0.450	202.073	201.739	204.416	204.416	2.343	2.677	\$2,594.40	\$ 215,623.18
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1105	Pipe Upsize	MH1939	MH1938	83.724	0.375	0.450	202.484	202.099	204.827	204.827	2.343	2.728	\$2,594.40	\$ 217,213.55
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1104	Pipe Upsize	MH1940	MH1939	109.312	0.375	0.450	203.001	202.520	205.344	205.344	2.343	2.824	\$2,594.40	\$ 283,599.05
Pilsbury	Option 1 - King Street to William Street Upsizing	SAS1103	Pipe Upsize	MH1941	MH1940	117.392	0.375	0.450	203.526	203.009	205.869	205.869	2.343	2.86	\$2,594.40	\$ 304,561.80
Yonge	Option 2 - William Street Upgrades	SAS833	Pipe Upsize	MH1651	MH1650	111.319	0.750	0.825	184.075	183.750	186.525	186.525	2.45	2.775	\$3,024.40	\$ 336,673.18
Yonge	Option 2 - William Street Upgrades	SAS950	Pipe Upsize	MH1787	MH1651	102.875	0.750	0.825	184.978	184.085	187.358	187.358	2.38	3.273	\$3,024.40	\$ 311,135.15
Yonge	Option 2 - William Street Upgrades	SAS949	Pipe Upsize	MH1627	MH1787	102.127	0.750	0.825	185.489	184.998	188.139	188.139	2.65	3.141	\$3,024.40	\$ 308,872.90
Yonge	Option 2 - William Street Upgrades	SAS948	Pipe Upsize	MH1786	MH1627	112.297	0.675	0.825	186.433	185.549	189.093	189.093	2.66	3.544	\$3,024.40	\$ 339,631.05
Yonge	Should really be 2021-2041 - Upgrades New Yonge Trunk Alignment	C1_1	Pipe Upsize	MH1924	J17	105	#N/A	0.600	216.408	214.886	222.749	222.749	6.341	7.863	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_2	Pipe Upsize	J17	J19	105	#N/A	0.600	214.886	213.363	225.248	225.248	10.362	11.885	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_3	Pipe Upsize	J19	J20	105	#N/A	0.600	213.363	211.841	225.169	225.169	11.806	13.328	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_4	Pipe Upsize	J20	J21	105	#N/A	0.600	211.841	210.318	220.128	220.128	8.287	9.81	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_5	Pipe Upsize	J21	J22	105	#N/A	0.600	210.318	208.796	216.368	216.368	6.05	7.572	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_6	Pipe Upsize	J22	J23	105	#N/A	0.600	208.796	207.273	213.156	213.156	4.36	5.883	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_7	Pipe Upsize	J23	J24	105	#N/A	0.600	207.273	205.751	213.186	213.186	5.913	7.435	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_8	Pipe Upsize	J24	J25	105	#N/A	0.600	205.751	204.228	211.213	211.213	5.462	6.985	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_9	Pipe Upsize	J25	J26	105	#N/A	0.600	204.228	202.706	205.542	205.542	1.314	2.836	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_10	Pipe Upsize	J26	J27	105	#N/A	0.600	202.706	201.183	204.635	204.635	1.929	3.452	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_11	Pipe Upsize	J27	J28	105	#N/A	0.600	201.183	199.661	202.138	202.138	0.955	2.477	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_12	Pipe Upsize	J28	J29	105	#N/A	0.600	199.661	198.138	203.678	203.678	4.017	5.54	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_13	Pipe Upsize	J29	J30	105	#N/A	0.600	198.138	196.616	202.668	202.668	4.53	6.052	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_14	Pipe Upsize	J30	J31	105	#N/A	0.600	196.616	195.093	199.859	199.859	3.243	4.766	\$1,045.00	\$ 109,725.00
Yonge	Should really be 2021-2041 - New Yonge Trunk Alignment	C1_15	Pipe Upsize	J31	MH1646	102.558	#N/A	0.600	195.093	193.606	197.100	197.100	2.007	3.494	\$1,045.00	\$ 107,173.11
Pilsbury	Option 3 - Forcemain to William Street					3700		0.300							\$2,594.40	\$9,599,280.00
Pilsbury	Option 2 - Forcemain to Yonge via County Road 93					2500		0.300							\$2,594.40	\$6,486,000.00
Pilsbury	Option 1 - Forcemain to to of Pillsbury					1900		0.300							\$2,594.40	\$4,929,360.00

Option 1
Option 2

\$ 5,027,265.85
\$ 1,923,231.28