



City of Manitowoc Example Financing Plan

New Debt Issued 2018-2022 = \$22,000,000																			
		2018 ^(C)			2019 ^(C)			2020 ^(C)			2021 ^(C)		2022 ^(C)						
		\$3,000,000			\$4,000,000			\$5,000,000			\$5,000,000		\$5,000,000						
		G.O. PROMISSORY NOTES			G.O. PROMISSORY NOTES			G.O. PROMISSORY NOTES			G.O. PROMISSORY NOTES		G.O. PROMISSORY NOTES						
		Dated August 1, 2018			Dated August 1, 2019			Dated August 1, 2020			Dated August 1, 2021		Dated August 1, 2022						
		(First interest 2/1/19)			(First interest 2/1/20)			(First interest 2/1/21)			(First interest 2/1/22)		(First interest 2/1/23)						
LEVY YEAR	YEAR DUE	EXISTING DEBT (Levy Supported) (A)	2017 REFINANCE (Bank Note)	2018 REFINANCE (CR/AR) (C)	PRINCIPAL (2/1)	INTEREST (2/1 & 8/1) TIC= 2.34%	BID PREMIUM	PRINCIPAL (2/1)	INTEREST (2/1 & 8/1) AVG= 3.00%	PRINCIPAL (2/1)	INTEREST (2/1 & 8/1) AVG= 3.00%	PRINCIPAL (2/1)	INTEREST (2/1 & 8/1) AVG= 3.00%	PRINCIPAL (2/1)	INTEREST (2/1 & 8/1) AVG= 3.00%	FUTURE BORROWINGS (B) (C)	TOTAL DEBT PAYMENTS (Levy Supported)	ANNUAL LEVY INCREASE	YEAR DUE
2016	2017	\$6,273,875															\$6,273,875		2017
2017	2018	\$6,950,545	(\$593,731)														\$6,356,814	\$82,939	2018
2018	2019	\$7,101,235	(\$150,887)	(\$434,133)		\$90,000	(\$90,000)										\$6,516,216	\$159,402	2019
2019	2020	\$7,033,049	\$16,795	(\$631,983)		\$90,000	(\$26,770)										\$6,601,091	\$84,875	2020
2020	2021	\$6,883,448	\$16,795	(\$660,383)		\$90,000			\$120,000								\$6,599,860		2021
2021	2022	\$6,215,212	\$16,795	(\$179,083)		\$90,000		\$40,000	\$119,400								\$6,602,324		2022
2022	2023	\$5,440,900	\$160,446	(\$58,673)		\$90,000		\$170,000	\$116,250								\$6,599,860		2023
2023	2024	\$3,780,294	\$162,605	\$265,575	\$565,000	\$81,525		\$585,000	\$104,925	\$140,000	\$147,900	\$100,000	\$150,000			150,000	\$6,605,323		2024
2024	2025	\$2,849,467	\$263,320	\$265,288	\$580,000	\$64,350		\$605,000	\$87,075	\$180,000	\$143,100	\$320,000	\$138,300	\$180,000	\$142,350	462,525	\$6,605,350		2025
2025	2026	\$2,057,803	\$114,225	\$265,306	\$600,000	\$46,650		\$620,000	\$68,700	\$785,000	\$113,175	\$585,000	\$124,725	\$305,000	\$135,075	784,875	\$6,605,534		2026
2026	2027	\$588,700	\$116,461	\$540,325	\$620,000	\$28,350		\$640,000	\$49,800	\$810,000	\$89,250	\$725,000	\$105,075	\$950,000	\$116,250	1,224,950	\$6,604,160		2027
2027	2028			\$539,950	\$635,000	\$9,525		\$660,000	\$30,300	\$830,000	\$64,650	\$750,000	\$82,950	\$620,000	\$92,700	2,291,200	\$6,606,275		2028
2028	2029			\$411,075				\$680,000	\$10,200	\$855,000	\$39,375	\$775,000	\$60,075	\$695,000	\$72,975	3,003,900	\$6,602,600		2029
2029	2030									\$885,000	\$13,275	\$795,000	\$36,525	\$405,000	\$56,475	3,771,875	\$5,963,150	(\$639,450)	2030
2030	2031											\$820,000	\$12,300	\$860,000	\$37,500	4,233,350	\$5,963,150		2031
2031	2032													\$820,000	\$12,300	5,130,850	\$5,963,150		2032
		\$55,174,528	\$122,822	\$323,266	\$3,000,000	\$680,400	(\$116,770)	\$4,000,000	\$826,650	\$5,000,000	\$1,043,400	\$5,000,000	\$1,003,500	\$5,000,000	\$963,150	\$21,053,525	\$103,074,471		

(A) Includes bid premium offset of \$120,869 in 2017 from 2016 G.O. Promissory Notes & \$135,805 in 2018 from 2017 G.O. Promissory Notes.
 (B) Assumes \$5,000,000 issued annually. 10 year repayment at 3.00% interest rate.
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City of Manitowoc Illustration of Hypothetical Refinancing ⁽¹⁾

Calendar Year	BEFORE REFINANCING							AFTER REFINANCING							POTENTIAL DEBT SERVICE SAVINGS		
	\$8,220,000 G.O. Corporate Purp. Bonds* Dated April 9, 2007			\$2,955,000 G.O. Promissory Notes Dated February 17, 2009			OTHER NET G.O. DEBT SERVICE ⁽³⁾	TOTAL NET G.O. DEBT SERVICE	\$8,220,000 G.O. Corporate Purp. Bonds* Dated April 9, 2007		\$2,955,000 G.O. Promissory Notes Dated February 17, 2009		\$775,000 G.O. Promissory Notes Dated November 6, 2017 ⁽²⁾			OTHER NET G.O. DEBT SERVICE ⁽³⁾	TOTAL NET G.O. DEBT SERVICE
	PRINCIPAL (2/1)	RATE	INTEREST (2/1 & 8/1)	PRINCIPAL (2/1)	RATE	INTEREST (2/1 & 8/1)			PRINCIPAL (2/1)	INTEREST (2/1 & 8/1)	PRINCIPAL (2/1)	INTEREST (2/1 & 8/1)	PRINCIPAL (2/1)	INTEREST (2/1 & 8/1)			
2017	\$410,000	3.875%	\$24,606	\$155,000	3.000%	\$12,488	\$5,671,782	\$6,273,875	\$410,000	\$24,606	\$155,000	\$12,488	\$5,671,782	\$6,273,875	\$0		
2018	\$430,000	3.875%	\$8,331	\$160,000	3.000%	\$7,763	\$6,344,451	\$6,950,545	***		***		\$6,344,451	\$6,356,814	\$593,731		
2019	+++			\$165,000	3.250%	\$2,681	\$6,933,554	\$7,101,235	+++		***		\$6,933,554	\$6,950,348	\$150,887		
2020	+++						\$7,033,049	\$7,033,049	+++				\$7,033,049	\$7,049,844	(\$16,795)		
2021	+++						\$6,883,448	\$6,883,448	+++				\$6,883,448	\$6,900,243	(\$16,795)		
2022	+++						\$6,215,212	\$6,215,212	+++				\$6,215,212	\$6,232,007	(\$16,795)		
2023							\$5,440,900	\$5,440,900					\$5,440,900	\$5,601,346	(\$160,446)		
2024							\$3,780,294	\$3,780,294				\$145,000	\$15,446	\$5,601,346	(\$162,605)		
2025							\$2,849,467	\$2,849,467				\$150,000	\$12,605	\$3,942,899	(\$263,320)		
2026							\$2,057,803	\$2,057,803				\$255,000	\$8,320	\$3,112,787	(\$114,225)		
2027							\$588,700	\$588,700				\$110,000	\$4,225	\$2,172,028	(\$116,461)		
												\$115,000	\$1,461	\$705,161			
	\$840,000		\$32,938	\$480,000		\$22,931	\$53,798,660	\$55,174,528	\$410,000	\$24,606	\$155,000	\$12,488	\$775,000	\$121,597	\$53,798,660	\$55,297,350	(\$122,822)

Maturities callable 2/1/2017 or any date thereafter.

Maturities callable 2/1/2017 or any date thereafter.

*** REFINANCED WITH 2017 ISSUE.

*General Fund Portion only

CALLABLE MATURITIES
Partially refunded with 2015 Bonds
+++ Refunded with 2015 Bonds

ROUNDING AMOUNT..... \$553
POTENTIAL GROSS SAVINGS (LOSS)..... (\$122,269)

(1) This illustration represents a mathematical calculation of potential interest cost savings (cost), assuming hypothetical rates based on current rates for municipal bonds as of 8/18/17. Actual rates may vary. If actual rates are higher than those assumed, the interest cost savings would be lower. This illustration provides information and is not intended to be a recommendation, proposal or suggestion for a refinancing or otherwise to be considered as advice.

(2) POTENTIAL PRESENT VALUE SAVINGS \$..... \$2,241
POTENTIAL PRESENT VALUE SAVINGS %..... 0.297%

(2) Present value calculated using the All Inclusive Cost (AIC) of 2.43% as the discount rate.

(3) Includes bid premium offset of \$120,869 in 2017 from 2016 G.O. Promissory Notes & \$135,805 in 2018 from 2017 G.O. Promissory Notes.

Interest Rate Sensitivity		
Change in Rates	Est. PV % Savings	Est. PV \$ Savings
-0.30%	0.435%	\$3,281
-0.20%	0.389%	\$2,937
-0.10%	0.343%	\$2,593
+0.10%	0.251%	\$1,898
+0.20%	0.206%	\$1,556
+0.30%	0.161%	\$1,214

City of Manitowoc Illustration of Hypothetical Refinancing ⁽¹⁾

Calendar Year	BEFORE REFINANCING													
	\$5,600,000 G.O. Corp Purp. Bonds, 2008B Dated June 30, 2008			\$6,225,000 G.O. Corporate Purp. Bonds Dated February 17, 2009			\$1,605,000 G.O. Promissory Notes Dated April 25, 2011			\$3,280,000 G.O. Corp Purpose Bonds* Dated April 25, 2011			OTHER NET G.O. SERVICE ⁽³⁾	TOTAL NET G.O. DEBT SERVICE
	PRINCIPAL (2/1)	RATE	INTEREST (2/1 & 8/1)	PRINCIPAL (2/1)	RATE	INTEREST (2/1 & 8/1)	PRINCIPAL (2/1)	RATE	INTEREST (2/1 & 8/1)	PRINCIPAL (2/1)	RATE	INTEREST (2/1 & 8/1)		
2018	\$410,000	4.000%	\$36,000	\$425,000	4.000%	\$64,100	\$190,000	2.350%	\$19,040	195,000	2.700%	\$62,953	\$4,954,721	\$6,356,814
2019	\$420,000	4.000%	\$19,400	\$445,000	4.000%	\$46,700	\$195,000	2.550%	\$14,321	205,000	2.750%	\$57,501	\$5,547,426	\$6,950,348
2020	\$275,000	4.000%	\$5,500	\$460,000	4.000%	\$28,600	\$205,000	2.700%	\$9,068	210,000	3.000%	\$51,533	\$5,805,144	\$7,049,844
2021	+++			\$485,000	4.000%	\$9,700	\$210,000	3.000%	\$3,150	\$215,000	3.000%	\$45,158	\$5,932,235	\$6,900,243
2022	+++			+++			\$230,000	3.000%	\$38,483	\$235,000	3.200%	\$31,273	\$5,335,074	\$6,232,007
2023	+++			+++			\$250,000	3.350%	\$23,325	\$260,000	3.500%	\$14,588	\$3,669,574	\$5,601,346
2024				+++			\$275,000	3.650%	\$5,019			\$1,892,009	\$2,838,200	\$3,942,899
2025												\$705,161	\$2,172,028	\$3,112,787
2026													\$705,161	\$2,172,028
2027														\$705,161
2028														\$705,161
2029														\$705,161
	<u>\$1,105,000</u>		<u>\$60,900</u>	<u>\$1,815,000</u>		<u>\$149,100</u>	<u>\$800,000</u>		<u>\$45,579</u>	<u>\$2,075,000</u>		<u>\$329,830</u>	<u>\$42,643,066</u>	<u>\$49,023,475</u>

Maturities callable 2/1/2018 or any date thereafter.

Maturities callable 2/1/2019 or any date thereafter.

Maturities callable 2/1/2019 or any date thereafter.

Maturities callable 2/1/2021 or any date thereafter.

*General Fund Portion only

CALLABLE MATURITIES
Partially refunded with 2015 Bonds
+++ Refunded with 2015 Bonds

(1) This illustration represents a mathematical calculation of potential interest cost savings (cost), assuming hypothetical rates based on current rates +15bps for municipal bonds as of 8/14/17. Actual rates may vary. If actual rates are higher than those assumed, the interest cost savings would be lower. This illustration provides information and is not intended to be a recommendation, proposal or suggestion for a refinancing or otherwise to be considered as advice.

(2) Present value calculated using the All Inclusive Cost (AIC) of 2.51% as the discount rate.

(3) Includes bid premium offset of \$135,805 in 2018 from 2017 G.O. Promissory Notes.

Interest Rate Sensitivity		
Change in Rates	Est. PV % Savings	Est. PV \$ Savings
-0.30%	1.602%	\$49,649
-0.20%	1.285%	\$39,835
-0.10%	0.969%	\$30,043
+0.10%	0.338%	\$10,478
+0.20%	0.028%	\$857
+0.30%	-0.281%	(\$8,712)

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**City of Manitowoc
Illustration of Hypothetical Refinancing (1)**

AFTER REFINANCING														
Calendar Year	\$5,600,000 G.O. Corp Purp. Bonds, 2008B Dated June 30, 2008		\$6,225,000 G.O. Corporate Purp. Bonds Dated February 17, 2009		\$1,605,000 G.O. Promissory Notes Dated April 25, 2011		\$3,280,000 G.O. Corp Purpose Bonds* Dated April 25, 2011		\$3,075,000 G.O. Promissory Notes (CR/AR) Dated August 1, 2018 ⁽⁴⁾			OTHER NET G.O. SERVICE ⁽³⁾	TOTAL NET G.O. NEW DEBT SERVICE	POTENTIAL DEBT SERVICE SAVINGS
	PRINCIPAL (2/1)	INTEREST (2/1 & 8/1)	PRINCIPAL (2/1)	INTEREST (2/1 & 8/1)	PRINCIPAL (2/1)	INTEREST (2/1 & 8/1)	PRINCIPAL (2/1)	INTEREST (2/1 & 8/1)	PRINCIPAL (2/1)	INTEREST (2/1 & 8/1)	TOTAL			
2018	\$410,000	\$36,000	\$425,000	\$64,100	\$190,000	\$19,040	\$195,000	\$62,953				\$4,954,721	\$6,356,814	\$0
2019	***		\$445,000	\$8,900	\$195,000	\$8,021	\$205,000	\$15,569		\$91,300	\$91,300	\$5,547,426	\$6,516,216	\$434,133
2020	***		***		\$205,000	\$2,768	\$210,000	\$9,600	\$95,000	\$90,350	\$185,350	\$5,805,144	\$6,417,861	\$631,983
2021	+++		***		***		\$215,000	\$3,225		\$89,400	\$89,400	\$5,932,235	\$6,239,860	\$660,383
2022	+++		+++							\$89,400	\$89,400	\$5,963,524	\$6,052,924	\$179,083
2023	+++		+++							\$87,600	\$207,600	\$5,335,074	\$5,542,674	\$58,673
2024			+++							\$460,000	\$78,900	\$3,669,574	\$4,208,474	(\$265,575)
2025			+++							\$475,000	\$64,875	\$2,838,200	\$3,378,075	(\$265,288)
2026			+++							\$495,000	\$50,325	\$1,892,009	\$2,437,334	(\$265,306)
2027										\$505,000	\$35,325	\$705,161	\$1,245,486	(\$540,325)
2028										\$520,000	\$19,950		\$539,950	(\$539,950)
2029										\$405,000	\$6,075		\$411,075	(\$411,075)
	\$410,000	\$36,000	\$870,000	\$73,000	\$590,000	\$29,829	\$825,000	\$91,346	\$3,075,000	\$703,500	\$3,778,500	\$42,643,066	\$49,346,741	(\$323,266)

*** REFINANCED WITH 2018 ISSUE.

ROUNDING AMOUNT..... \$3,074
 POTENTIAL GROSS SAVINGS (LOSS)..... (\$320,192)

⁽⁴⁾ POTENTIAL PRESENT VALUE SAVINGS..... \$20,271
 POTENTIAL PV SAVINGS %..... 0.654%

POTENTIAL NEGATIVE ARBITRAGE..... \$29,181

IMPORTANT DISCLOSURES

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