

MAPLE BLUFF SEWER UTILITY

MMSD Adjustment Clause - Updated User Charge
 Projected 2014

Recalculate to obtain Maple Bluff Sewer Utility's
 updated user charges

Number of billings

4

	<u>Current Rates</u>	<u>Calculated Rates</u>
Volume	\$2.180 per 100 CF	\$2.210 per 100 CF
	2.910 per 1,000 gals	2.950 per 1,000 gals
BOD	0.362 per lb	0.371 per lb
SS	0.564 per lb	0.550 per lb
TKN	0.255 per lb	0.251 per lb
P	1.090 per lb	1.481 per lb
<u>Meters</u>		
5/8"	\$21.40 per quarter	\$22.10 per quarter
3/4"	21.40 per quarter	22.10 per quarter
1"	37.59 per quarter	38.93 per quarter
1-1/2"	63.98 per quarter	66.39 per quarter
2"	95.93 per quarter	99.63 per quarter

MAPLE BLUFF SEWER UTILITY
 MMSD Adjustment Clause - Input Sheet
 Projected 2014

	2014 New <u>Rates (NR)</u>	2013 Base <u>Rates (BR) (A)</u>
Enter MMSD's volume and loading charge rate for the forecast and current period		
Volume (V)	\$0.62254 per 1,000 gals.	\$0.59533 per 1,000 gals.
CBOD (BOD)	0.14913 per lb	0.14015 per lb
Suspended Solids (SS)	0.20160 per lb	0.21582 per lb
Nitrogen (TKN)	0.37864 per lb	0.38269 per lb
Phosphorus (TP)	3.24819 per lb	2.85731 per lb
Enter MMSD's equivalent meter and customer rates for the forecast and current period		
Equivalent Meters (E) Rate	\$24.55 per year	\$22.84 per year
Customer (C) Rate	\$20.42 per year	\$19.32 per year

(A) base rates based on 2013 MMSD Adjustment

MAPLE BLUFF SEWER UTILITY
 MMSD Adjustment Clause - Calculation Sheet
 Projected 2014

Calculation of Adjusted Domestic Strength Charge:

Formula $NVR = AVR + CVR$
 $AVR = (V)VRC + (BOD)VRC + (SS)VRC + (TKN)VRC + (TP)VRC$
 General Calculation
 $RC = NR - BR$
 $6500 RC * CG * DS$
 Component Calculation
 $53700 (V)RC$
 $(BOD)VRC = (BOD)RC * (BOD)CG * (BOD)DS$
 $(SS)VRC = (SS)RC * (SS)CG * (SS)DS$
 $(TKN)VRC = (TKN)RC * (TKN)CG * (TKN)DS$
 $(TP)VRC = (TP)RC * (TP)CG * (TP)DS$

Components	Current Rates (CVR)	New Rates (NR)	Base Rates (BR)	Rate Change (RC)	Convert to Gallon (CG)	Domestic Strength (DS)	Rate Change (VRC)	
Volume	\$2.910000	\$0.622540	\$0.595330	\$0.027210	N/A	N/A	\$0.027210	= (V)VRC
BOD	0.362000	0.149130	0.140150	0.008980	0.00834	200	0.014979	= (BOD)VRC
SS	0.564000	0.201600	0.215820	(0.014220)	0.00834	250	(0.029649)	= (SS)VRC
TKN	0.255000	0.378640	0.382690	(0.004050)	0.00834	40	(0.001351)	= (TKN)VRC
TP	1.090000	3.248190	2.857310	0.390880	0.00834	10	<u>0.032599</u>	= (TP)VRC
							AVR = 0.043788	
							CVR = <u>2.91</u>	
							NVR = <u>\$2.95</u>	

Calculation of the Adjusted Quarterly Service Charge:

Formula: $C = BMRC + MOR$
 $BMRC = MRC / B$
 $MRC = DC + CC$

Calculation of the Demand and Customer Change:

Formula: $DC = (EN - EB) * DR$
 $CC = CN - CB$

		Demand Ratio (DR)	Demand Change (DC)	Customer Change (CC)	Annual Meter Rate Change (MRC)	Quarterly Meter Rate Change (BMRC)	Current Meter Rate (MOR)	Adjusted New Meter Rate (C)	Proposed New Meter Rate
5/8"	=	1.0	\$1.71	\$1.10	\$2.81	\$0.70	\$21.40	\$22.10	\$22.10
3/4"	=	1.0	1.71	1.10	2.81	0.70	21.40	22.10	22.10
1"	=	2.5	4.28	1.10	5.38	1.34	37.59	38.93	38.93
1-1/4"	=	0.0	0.00	-00	-00	-00	-00	-00	-00
1-1/2"	=	5.0	8.55	1.10	9.65	2.41	63.98	66.39	66.39
2"	=	8.0	13.68	1.10	14.78	3.70	95.93	99.63	99.63
3"	=	0.0	0.00	-00	-00	-00	-00	-00	-00
4"	=	0.0	0.00	-00	-00	-00	-00	-00	-00
6"	=	0.0	0.00	-00	-00	-00	-00	-00	-00
8"	=	0.0	0.00	-00	-00	-00	-00	-00	-00
10"	=	0.0	0.00	-00	-00	-00	-00	-00	-00
12"	=	0.0	0.00	-00	-00	-00	-00	-00	-00

MAPLE BLUFF SEWER UTILITY
 Quarterly Bill Comparison - Proposed Rates
 Projected 2014

<u>Customer</u>	<u>Quarterly Volume (CF)</u>	<u>Meter</u>	<u>Quarterly Charge</u>		<u>Inc. / (Dec.)</u>	<u>%</u>
			<u>Present</u>	<u>Proposed</u>		
Small Residential	1,250	3/4"	\$48.65	\$49.73	\$1.08	2.2%
Average Residential	2,750	3/4"	81.35	82.88	1.53	1.9%
Large Residential	26,850	3/4"	606.73	615.49	8.76	1.4%
Small Commercial	4,500	3/4"	119.50	121.55	2.05	1.7%
Average Commercial	9,500	3/4"	228.50	232.05	3.55	1.6%
Large Commercial	77,950	2"	1,795.24	1,822.33	27.09	1.5%
Public Authority	200	3/4"	25.76	26.52	0.76	3.0%
Public Authority	4,900	1"	144.41	147.22	2.81	1.9%

MAPLE BLUFF SEWER UTILITY

Calculation of Total Revenues
 Projected 2014

	<u>Units (A)</u>	<u>Current Rates</u>		<u>Calculated Rates</u>	
		<u>Rates</u>	<u>Revenues</u>	<u>Rates</u>	<u>Revenues</u>
Enter the Utility's annual billable gallons for the forecast period	76,197	\$2.18	\$166,109	\$2.21	\$168,395
Enter the Utility's annual billable meters for the forecast period					
5/8"	312	21.40	26,707	22.10	27,581
3/4"	155	21.40	13,268	22.10	13,702
1"	58	37.59	8,721	38.93	9,032
1-1/2"	3	63.98	768	66.39	797
2"	4	95.93	1,535	99.63	1,594
	<u>532</u>		<u>\$217,108</u>		<u>\$221,101</u>
Increase \$ from Current Rates					<u>\$3,993</u>
Increase % from Current Rates					<u>1.8%</u>

(A) - Based on actual 2012 billing units.

MAPLE BLUFF SEWER UTILITYMMSD Adjustment Clause - Description Sheet
Projected 2014

DESCRIPTION OF THE ADJUSTED DOMESTIC STRENGTH VOLUME CHARGE:

Formula: $NVR = AVR + CVR$
 $AVR = (V)VRC + (BOD)VRC + (SS)VRC + (TKN)VRC + (TP)VRC$
 $RC = NR - BR$
 $VRC = RC * CG * DS$

Where: NVR = Calculated new domestic strength utility volume rate per 1,000 gallons

AVR = Calculated domestic strength volume rate adjustment to the current utility domestic strength volume rate

CVR = Current utility domestic strength volume rate per 1,000 gallons

$(V)VRC$ = Adjustment to domestic volume rate per 1,000 gallons
MMSD new volume rate less MMSD current volume rate

$(BOD)VRC$ = Adjustment to domestic BOD rate component per 1,000 gallons
MMSD new BOD rate less MMSD current BOD rate
multiplied by the domestic strength multiplied by conversion to gallons

$(SS)VRC$ = Adjustment to domestic SS rate component per 1,000 gallons
MMSD new SS rate less MMSD current SS rate
multiplied by the domestic strength multiplied by conversion to gallons

$(TKN)VRC$ = Adjustment to domestic TKN rate component per 1,000 gallons
MMSD new TKN rate less MMSD current TKN rate
multiplied by the domestic strength multiplied by conversion to gallons

$(TP)VRC$ = Adjustment to domestic TP rate component per 1,000 gallons
MMSD new TP rate less MMSD current TP rate
multiplied by the domestic strength multiplied by conversion to gallons

RC = New MMSD service rate less current MMSD service rate

NR = New MMSD service rate

BR = Current MMSD service rate

CG = Conversion factor from per pound to per gallon

DS = Utility domestic strength by component

DESCRIPTION OF ADJUSTED METER CHARGE:

Formula: $C = BMRC + MOR$
 $BMRC = MRC / B$
 $MRC = DC + CC$
 $DC = (EN - EB) * DR$
 $CC = CN - CB$

Where: C = Adjusted utility meter rate (to nearest one cent)

$BMRC$ = Semi-annual utility meter rate change

MOR = Current utility meter rate

B = Number of annual utility billings (currently 4 times a year)

MRC = Change in utility annual service rate per meter

DR = Demand ratio per meter size

DC = MMSD new equivalent meter service rate less current equivalent meter service rate
multiplied by demand ratio

CC = MMSD new customer service rate less current customer service rate

EN = MMSD new annual equivalent meter service rate

EB = MMSD current annual equivalent meter service rate

CN = MMSD new annual customer service rate

CB = MMSD current annual customer service rate