DW-SRF 2013 Project
Green Project Reserve Calculation

Green Project Reserve Methodology using format from EPA's • June 22, 2009 guidance for GPR business cases

ESTIMATE OF VALUE OF WATER LOSS WORKSHEET

	SRF PROJECT ID #	**2013-16**
1	Date:	25-Jul-13
2	PWSID #	ME0091200
3	System	**Old Town Water District**
4	Project Name	Main Replacement Project
5	Location	Veazie Street in Old Town and Davenport Street in Milford
6	Engineering Consultant	Sewall
7	Existing Main size, age, and type	2" GI and 4" cast iron unlined installed 1920's
8	Proposed New Water Main size and type	8" Ductile Iron cement lined pipe
9	New Main Pipe Length	4,060
10	Estimated Project Cost	$ 753,176

Note: Data from Utilities Annual Report to Maine Public Utilities Commission

Page	Line	Description		Units	2011 PUC data
W-12	15	Total Production Water		gallons per year	352,786,000
W-12	17	Total Revenue Water		gallons per year	304,004,000
W-12	19	Total Non-Revenue Water		gallons per year	48,782,000
W-12	19	Percent Non-Revenue Water			14%
W-12	22	Utility Usage - treatment		gallons per year	14,000,000
W-12	23	Utility Usage - hydrant flushing		gallons per year	7,140,000
W-12	14	Utility Usage - bleeders		gallons per year	1,000,000
W-12	26	Utility Usage - all other (running customers & blow-offs)		gallons per year	3,000,000
W-12	30	Fire Protection		gallons per year	200,000
W-12	31	Main Breaks		gallons per year	1,000,000
W-12	35	Flushing Mains		gallons per year	2,800,000
W-12	36	Total Accounted for Non-Revenue Water		gallons per year	29,140,000
W-12	37	Total Unaccounted Non-Revenue Water		gallons per year	19,642,000
		Estimated Water Loss From ALL Breaks, Leaks, & Bleeders		**gallons per year**	27,442,000
		(PUC Accounts total of lines 14, 26,31,35 and 37)			
		% of Water Loss of Total Production Water			8%
		(PUC Lines 14,26,31,35,37 divided by Line 15)			
W-9	9	Total Transmission Mains		feet	8,458
W-9	23	Total Distribution Mains		feet	229,844
		Total Mains in Service		feet	238,302
				miles	45
		Estimated Distribution System Losses:			
		Loss Water per mile of pipe		gallons per mile per year	608,026
		Loss Water per foot of pipe per year		gallons per foot per year	115
		Loss water per foot of pipe per day		gallons per foot per day	0.32
		Water loss will vary with age of water main - assume Straight line projection as follows:			
		0 to 25 year old pipe	*0 % of Total Loss*	gallons per mile per year	-
		26 to 50 year old pipe	*10% of Total Loss*	gallons per mile per year	*60,803*
		51 to 75 year old pipe	*30% of Total Loss*	gallons per mile per year	*182,408*
		over 75 year old pipe	*60% of Total Loss*	gallons per mile per year	*364,815*
				All Loses:	608,026
		Age of Main to be replaced		years	100
		Length of Main to be Replaced		mile	0.77
		CALCULATED WATER LOSS - FOR PROPOSED PROJECT		**gallons per year**	**280,521**
W-2	29c	**Total PRODUCTION COST of Water**		**$/year**	**$ 907,059**
W-12	15	Total Production Water		1,000 gallons per year	352,786
		Production Cost of Water		**per 1,000 gallons**	**$ 2.57**
		PROJECTED ANNUAL VALUE of WATER LOSS		**per year**	**$ 721**

Annual Savings	$	721
PV Factor (uniform series present worth factor (1%, 75 years):	$	52.587
Present Value of Savings over Economic life of pipeline:	**$**	**37,929**
Project Cost	**$**	**753,176**
PV Percent of Project Cost:		5%
ESTIMATED % Green		**5%**
$ Amount Green	**$**	**37,929**