DW-SRF 2012 Project

Proposal for 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 #	**2012-42**
1	Date:	23-Oct-12
2	PWSID #	ME0091550
3	System	**Vinalhaven Water District**
4	Project Name	Main Replacement Project
5	Location	Water, Leo, Atlantic and Clam
6	Engineering Consultant	Maine Water Company
7	Existing Main size, age, and type	2: GI
8	Proposed New Water Main size and type	200' of 8" Ductile Iron Cement Lined 800' of 2" HDPE
9	New Main Pipe Length	1,200
10	Estimated Project Cost	$ 431,420

Note: Data from Utilities Annual Report (2008) to Maine Public Utilities Commission

Page	Line	Description		Units		2011 data
W-12	15	Total Production Water		gallons per year		16,300,000
W-12	17	Total Revenue Water		gallons per year		10,437,000
W-12	19	Total Non-Revenue Water		gallons per year		5,863,000
W-12	19	Percent Non-Revenue Water				36%
W-12	22	Utility Usage - treatment		gallons per year		444,000
W-12	23	Utility Usage - hydrant flushing		gallons per year		300,000
W-12	14	Utility Usage - bleeders		gallons per year		325,000
W-12	26	Utility Usage - all other (running customers & blow-offs)		gallons per year		497,000
W-12	30	Fire Protection		gallons per year		-
W-12	31	Main Breaks		gallons per year		10,000
W-12	35	Flushing Mains		gallons per year		
W-12	36	Total Accounted for Non-Revenue Water		gallons per year		1,576,000
W-12	37	Total Unaccounted Non-Revenue Water		gallons per year		4,287,000
		Estimated Water Loss From ALL Breaks, Leaks, & Bleeders		**gallons per year**		5,119,000
		(PUC Accounts total of lines 14, 26,31,35 and 37)				
		% of Water Loss of Total Production Water				31%
		(PUC Lines 14,26,31,35,37 divided by Line 15)				
W-9	9	Total Transmission Mains		feet		20,008
W-9	23	Total Distribution Mains		feet		23,460
		Total Mains in Service		feet		43,468
				miles		8
		Estimated Distribution System Losses:				
		Loss Water per mile of pipe		gallons per mile per year		621,798
		Loss Water per foot of pipe per year		gallons per foot per year		118
		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		*62,180*
		51 to 75 year old pipe	*30% of Total Loss*	gallons per mile per year		*186,539*
		over 75 year old pipe	*60% of Total Loss*	gallons per mile per year		*373,079*
				All Loses:		621,798
		Age of Main to be replaced		years		100
		Length of Main to be Replaced		mile		0.23
		CALCULATED WATER LOSS - FOR PROPOSED PROJECT		**gallons per year**		**84,791**
W-2	29c	**Total PRODUCTION COST of Water**		**$/year**	**$**	**151,802**
W-12	15	Total Production Water		1,000 gallons per year		16,300
		Production Cost of Water		**per 1,000 gallons**	**$**	**9.31**
		PROJECTED ANNUAL VALUE of WATER LOSS		**per year**	**$**	**790**

Annual Savings	$	790
PV Factor (uniform series present worth factor (1%, 75 years):	$	52.587
Present Value of Savings over Economic life of pipeline:	**$**	**41,526**
Project Cost	**$**	**431,420**
PV Percent of Project Cost:		10%
ESTIMATED % Green		**10%**
$ Amount Green	**$**	**41,526**