DW-SRF 2011 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 #	**2011-02**	
1	Date:	10/23/2012	
2	PWSID #	ME0090040	
3	System	**ANSON WATER DISTRICT**	
4	Project Name	Main Replacement Project	
5	Location	Main Street	
6	Engineering Consultant	Dirigo	
7	Existing Main size, age, and type	8" cast iron unlined	
8	Proposed New Water Main size and type	12 unch Ductile Iron	
9	New Main Pipe Length	6,200	
10	Estimated Project Cost	$ 1,038,975	

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

Page	Line	Description		Units		2011 data
W-12	15	Total Production Water		gallons per year		73,746,000
W-12	17	Total Revenue Water		gallons per year		34,938,000
W-12	19	Total Non-Revenue Water		gallons per year		38,808,000
W-12	19	Percent Non-Revenue Water				53%
W-12	22	Utility Usage - treatment		gallons per year		
W-12	23	Utility Usage - hydrant flushing		gallons per year		
W-12	14	Utility Usage - bleeders		gallons per year		
W-12	26	Utility Usage - all other (running customers & blow-offs)		gallons per year		
W-12	30	Fire Protection		gallons per year		
W-12	31	Main Breaks		gallons per year		
W-12	35	Flushing Mains		gallons per year		-
W-12	36	Total Accounted for Non-Revenue Water		gallons per year		-
W-12	37	Total Unaccounted Non-Revenue Water		gallons per year		38,808,000
		Estimated Water Loss From ALL Breaks, Leaks, & Bleeders		**gallons per year**		38,808,000
		(PUC Accounts total of lines 14, 26,31,35 and 37)				
		% of Water Loss of Total Production Water				53%
		(PUC Lines 14,26,31,35,37 divided by Line 15)				
W-9	9	Total Transmission Mains		feet		72,627
W-9	23	Total Distribution Mains		feet		48,407
		Total Mains in Service		feet		121,034
				miles		23
		Estimated Distribution System Losses:				
		Loss Water per mile of pipe		gallons per mile per year		1,692,964
		Loss Water per foot of pipe per year		gallons per foot per year		321
		Loss water per foot of pipe per day		gallons per foot per day		0.88
		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		*169,296*
		51 to 75 year old pipe	*30% of Total Loss*	gallons per mile per year		*507,889*
		over 75 year old pipe	*60% of Total Loss*	gallons per mile per year		*1,015,779*
				All Loses:		1,692,964
		Age of Main to be replaced		years		100
		Length of Main to be Replaced		mile		1.17
		CALCULATED WATER LOSS - FOR PROPOSED PROJECT		**gallons per year**		**1,192,770**
W-2	29c	**Total PRODUCTION COST of Water**		**$/year**	**$**	**231,899**
W-12	15	Total Production Water		1,000 gallons per year		73,746
		Production Cost of Water		**per 1,000 gallons**	**$**	**3.14**
		PROJECTED ANNUAL VALUE of WATER LOSS		**per year**	**$**	**3,751**

Annual Savings	$	3,751
PV Factor (uniform series present worth factor (1%, 75 years):	$	52.587
Present Value of Savings over Economic life of pipeline:	**$**	**197,240**
Project Cost	**$**	**1,038,975**
PV Percent of Project Cost:		19%
ESTIMATED % Green		**19%**
$ Amount Green	**$**	**197,240**