#### WATER FILTRATION PLANT PUBLIC FORUM THURSDAY, NOVEMBER 12, 2020 7:00PM







Committed to the future of rural communities.

#### WATER FILTRATION PLANT PUBLIC FORUM



Introduction & Welcome
Explanation of Need
Cost & Repayment Options
Water Filtration Plant Plans

#### WATER FILTRATION PLANT PUBLIC FORUM



Please silence your cell phones
One person speaking at a time
If on Zoom, please MUTE yourself when not speaking.
You may type questions into the Zoom chat

#### WATER FILTRATION PLANT INTRODUCTION



□ Thank you for being here tonight

Main objective tonight: present the project and answer questions

Last Public Forum was October 13, 2020

Online survey has over 100 responses already (survey is still open!)



What's happening?

What's the solution?

How do we pay for it?

Sources of funding.



What's Happening?

High levels of iron (Fe) and manganese (Mn) in the Barnes Street public water supply. These levels are increasing: 10/04/18 - Fe = 1.07 mg/l - Mn = < 0.250 mg/l06/11/19 - Fe = 1.12 mg/l - Mn = 0.176 mg/l05/29/20 - Fe = 1.79 mg/l - Mn = 0.202 mg/l

The SMCL for iron = 0.3 mg/l : the SMCL for manganese = 0.05 mg/l.



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ALI	CIUM (mp/L)				Neot	0.100	EPA 200.7				SB-01			
MAGNESIUM (mo/L)					Mone	0.0100	EPA 200.7				SB-01			
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IRON (mgl.)	1.79	0.178	<u>D</u>	0.010	EPA 200,7	5/19/2020	CF98219 & 95220	
MANGANESE (mgt.)	0.202	0.136	815	0.001	EPA 200,7	5/19/2020	CF98218 & 96220	
ALKALINITY (mg/L as CaCO3)			Nooe	2.00	SM23208	1	\$8-01	



As you can see, 90% of the iron is being oxidized; being converted from soluble iron into insoluble iron because of the addition of chlorine for disinfection and potassium hydroxide for corrosion control as follows:

 $\mathrm{Fe^{+2}} + \mathrm{Cl_2} + \mathrm{KOH} \rightarrow \mathrm{FeO} + \mathrm{Fe_2O_3} + \mathrm{FeO}$ 

soluble iron + chlorine + potassium hydroxide  $\rightarrow$  insoluble iron, i.e. rust,

and it is being carried out into the distribution system

It collects in low points in the distribution system, in dead end streets, at null points in system and it's moved during high flows, i.e. fires, water breaks, increased usage during spring

This is also taking place with the manganese in the supply.



#### What's the solution?

- Put a filter between the treated water and the distribution system to trap the iron and manganese before it gets carried out into the system
- Construct an iron and manganese removal facility at Barnes Street
- This facility will do exactly what's happening now; it will use the existing chemicals to cause the same conversion, only there will be a filter to trap the insoluble iron
- Flushing removes the accumulated material in the system, but the replacement water that's used during flushing is water that also contains rust.



#### How do we pay for it?

- Number of system users:
- ✓2,445 accounts
- I 8 inactive
- ✓23 municipal
- ✓2304 billable

There were 560 delinquent notices sent out September 9<sup>th</sup>, for the August billing cycle,

The current water rate is : \$36.00 for the first 500 cubic feet, then \$5.75/100 cubic feet thereafter; there are 7.48 gallons in a cubic foot,

The commitment for November was \$314,598.00.

		FY11 ACTUAL	FY12 ACTUAL	FY13 ACTUAL	FY14 ACTUAL	FY15 ACTUAL	FY16 ACTUAL	FY17 ACTUAL	FY18 ACTUAL	FY19 ACTUAL	FY20 ACTUAL
WATER E	NTERPRISE FUND										
	Estimated Revenues										
	User Fees	882,697.20	852,447.16	877,419.59	867,429.17	824,545.56	833,150.42	851,126.92	856,474.73	976,125.02	977,043.90
	Water Liens	82,008.38	88,510.22	91,116.51	87,790.90	103,328.81	103,361.86	87,779.87	78,359.82	87,426.15	79,251.05
	Construction	12,442.16	7,067.65	2,996.91	4,416.85	20,946.69	4,851.95	15,382.49	15,977.81	6,523.87	4,454.37
	Penalties & Interest	12,136.15	12,127.25	12,166.66	10,683.31	9,064.50	9,545.79	10,001.53	10,665.59	10,469.93	18,649.79
	Municipal/School Charges	17,133.00	10,917.00	10,836.00	15,226.00	20,047.00	16,592.00	17,653.00	15,238.00	22,735.00	23,325.00
	Total Est Revenues	1,006,416.89	971,069.28	994,535.67	985,546.23	977,932.56	967,502.02	981,943.81	976,715.95	1,103,279.97	1,102,724.11
5100	Salaries	217,715.72	220,362.97	222,438.77	231,346.09	214,383.31	207,133.22	242,596.89	194,360.69	204,469.17	260,929.26
5150	Overtime	22,524.39	24,697.83	21,249.63	21,914.91	22,340.00	16,346.06	22,397.63	31,167.44	29,878.50	25,106.76
5180	Licenses	78.99	352.00	75.00	1,089.00	488.00	935.00	721.00	1,364.00	874.98	647.96
5190	Clothing Allowance	1,400.00	1,334.96	1,049.99	1,303.08	1,058.03	1,914.53	1,056.96	1,143.95	2,218.28	1,528.72
5200	Purchase of Services	189,823.94	220,977.02	146,105.48	179,456.63	167,502.12	148,100.86	143,067.80	165,694.47	197,208.41	225,817.20
5400	Supplies	117,370.05	118,626.11	112,287.41	141,092.39	114,570.65	140,359.84	162,484.88	164,646.04	194,239.83	180,343.12
5700	Other Charges		1,786.70	1,933.21	2,802.37	3,680.98	3,396.26	5,347.65	6,001.03	1,763.99	2,725.40
5800	Capital Outlay		-	-	-	-	-	-	22,335.91	37,995.09	58,110.00
	Extraordinary/Unforeseen				-	-	-	-	-	-	-
тс	TAL	548,913.09	588,137.59	505,139.49	579,004.47	524,023.09	518,185.77	577,672.81	586,713.53	668,648.25	755,208.42
	Indirect Costs	250,261.00	262,063.00	221,370.07	231,860.94	234,052.35	238,110.00	213,151.85	200,259.10	219,909.16	215,558.24
	Profit/Loss	207,242.80	120,868.69	268,026.11	174,680.82	219,857.12	211,206.25	191,119.15	189,743.32	214,722.56	131,957.45



How do we pay for it?

Anticipated Loan and Grant funds,

Rate increases/capital development charge,

Combination of water revenues and municipal funds.



#### Sources of Funding:

- •USDA
- •SRF
- •Chapter 44, Section 8 (4); Town borrows the money for 30 years
- Regardless of funding source, recommend debt exclusion override: too difficult to predict what
- will happen 30, or 40 years from now, or even next year; will require a ballot vote and a Town
- Meeting vote,
- For FY 21 the Town will raise \$386,833.37 under Proposition 2<sup>1</sup>/<sub>2</sub> (2.5% of previous years tax
- levy) + estimated new growth of \$115,000; Hampshire County retirement increased
- \$270,207.00; other unknowns

#### WATER FILTRATION PLANT



#### WATER FILTRATION PLANT EXAMPLE FILTERS









Estimated cost is currently \$12-13 million

□ Anticipating to work with USDA on a low interest loan and grants.

#### **Repayment Options include:**

- Increasing only water rates
- > Taxpayer contribution
- Combination of water rates AND tax payer contribution

## WATER FILTRATION PLANT COST & REPAYMENT SURVEY QUESTION

Q3 This project will be eligible to be funded by a low interest loan. How do you think the Town should pay off this loan? (Choose all that apply)



Responses through 11/10/2020



## WATER FILTRATION PLANT COST & REPAYMENT SURVEY QUESTION



We are Ware



## WATER FILTRATION PLANT QUESTIONS & ANSWERS

- Is there an less expensive alternative?
- Are there other options to repay the loan?
- Will this fix the brown water?
- Is the water safe to drink now?
- What about old water line replacements?
- How loud will the new plant be?
- How quickly will this project be finished?



## WATER FILTRATION PLANT NEXT PUBLIC FORUM

✓ Cost. What type of financial numbers are we really talking about?

- Water Enterprise = increased water rates
- Taxpayer Contribution = increased taxes
- Cost split between both
- ✓ Are grant funds available?

Next Public Forum Date: Thursday December 10, 2020 7:00pm Senior Center



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