

Townhall Presentation
August 18, 2014

What's the Problem?

The City of Cascade Locks has a water problem. The city's water main infrastructure is aging. The majority of our water mains were put in place over 60 years ago. It wasn't the best quality of material when it was new. Now we have to repair leaks more frequently.

One of our reservoirs (Dry Creek) was built by the Army Corps of Engineers over 120 years ago. Our water runs from that reservoir to the City through 6,000 feet of concrete asbestos pipe. That reservoir and piping need to be decommissioned.

Some of our water mains are undersized. Two water mains run under WaNaPa Street – a 6 inch line and a 2 inch line. It should be replaced with a 12 inch water main to provide adequate water flow through town. A 12" water main can carry 3.6 times as much water as the current 6" and 2" combined!

The water lines we do have continue to leak. The City produces, on average, 8,000,000 gallons of water a month. But the City only bills customers for 4,000,000 gallons. We lose half of our water production each month! It is normal for water systems to lose some water, but not half! In essence we are using twice as much electricity, twice as much pumping capacity, and twice as much chemical to clean the water than we need to.

The City is also experiencing expanding need. While we are not seeing an increase in home starts, we have had two new businesses open on the main street and another new business currently housed on Port property that wants to move to the main street. We also have increasing interest in property on WaNaPa that could be developed within the next year or two that would require sufficient water for customer use and/or fire protection. Without a 12" water main on WaNaPa, the City would be unable to supply sufficient water to fight a structure fire. This would prevent a large business from getting an occupancy permit from the County's Building Department.

So the problem is a leaking, aging infrastructure that does not have the capacity to supply the water needs of a growing community.

What's the Proposed Solution?

The City commissioned a Water System Improvements Master Plan, done by Tenneson Engineering of The Dalles. This almost two-year long study looked at the entirety of the current water system and the potential for growth in both residential and industrial sectors. The study concluded that the following projects need to be completed within the next five years.

1. Build new reservoir to replace Dry Creek Reservoir and abandon 15,000 feet of old water main (\$1,034,543)
2. Extend a 12 inch water main into the Industrial Park to provide a looped system on the east end of town (\$415,800)
3. Replace water mains on WaNaPa Street (\$896,873)
4. Upgrade Well #1 (\$76,956)
5. Develop a third well for the City (\$373,890)
6. Replace and extend water main on Ruckel Street (\$368,078)
7. Replace water main on Forest Lane (\$408,375)
8. Develop a water management and conservation plan (\$15,000)
9. Develop a leak detection program (\$50,000)
10. Update Public Works Standards (\$15,000)

If all of these projects were done, it would cost an estimated \$3,654,515.

Building a new reservoir on the west end of town not only fulfills the requirement for fire flow in the Industrial Park, it also provides that fire flow for any new development in the downtown area.

Extending the 12 inch water main improves the quality of the water for the east end of town because it provides a circulating system, it also enhances the amount of water available to the Industrial Park for fire flow purposes. This fire flow and water will be required by the potential industrial uses going into the Industrial Park.

Replacing the 6 inch and 2 inch water mains on WaNaPa Street provides much better flow and pressure for the west end of town. It also provides the ability to supply water to any new development that may occur in the downtown area.

Upgrade Well #1 will allow us to more efficiently supply water to the entire system, it will also allow the City to increase its production capacity.

Developing a third well for City water will reduce the wear and tear on the first two wells and is a more cost effective approach than rebuilding Well#2. With three wells supplying the water from the Herman Creek water right allows the City to operate any two wells at one time to supply the necessary water. This will make all three wells, and the equipment to run them, last longer. This benefit is further enhanced by the reduced need to produce water that is now lost to the 50% leakage rate.

The new water main on Ruckel Street would enhance the circulatory flow on the west end of town.

The new water main in Forest Lane from WaNaPa eastward would simply provide more water and consistent pressure to the residents between WaNaPa and Hammond.

The last three projects are ongoing maintenance issues that need to be addressed.

What is the Affordability Index?

Whether we like it or not, the Federal Government uses a standard to measure if the rate to the customer is affordable. It is based on data collected through the US Census and through other statistical measures. It is based on the median household income (MHI) measure. For the City of Cascade Locks,

our median household income is \$41,019. (Median income is the amount that divides the income distribution into two equal groups, half having income above that amount, and half having income below that amount.) The Affordability Index says that the rate is affordable if it is below 1.25% of the MHI for a month. At \$41,019, 1.25% per month is \$42.70. Grants (or loan forgiveness) is eligible only for those cities where the average rate is above the affordability index, and then only if funds are available for the grants.

Where will the City find the Funding for this Project?

The City has been working with the Oregon Business Development Department's Infrastructure Finance Authority to review funding options. The Council has focused on applying to the US Department of Agriculture (USDA) Rural Utility Services (RUS) for funding. This source would offer the longest term and lowest interest rate to the City. If the City qualifies for the USDA funding, the interest rate would be estimated at 3.25% at 40 years. This combination of rate and term offer the citizens the lowest increase in their water utility bill. If the City of Cascade Locks qualifies for the USDA fund, we may also be eligible for up to \$500,000 in loan forgiveness. This would reduce the cost to the City by almost 14%.

What is the current average water bill?

Assuming the average user in the City uses 4,000 gallon of water each month, this would be the bill:

\$ 9.50 Base Charge
.88 Meter Fee
<u>1.00</u> Hydrant Maintenance Fee (Fire Flow)
\$11.38 Total Fixed Cost
<u>\$10.00</u> 4,000 gallons at \$2.50 per thousand gallons
\$21.38 Total Water Bill

How does our current average bill compare to the Affordability Index?

The Affordability Index is \$42.70. The Average Water Bill is \$21.38, almost exactly half of the Affordability Index. In other words the average bill would have to double before we could be eligible for grant forgiveness from the State Government.

Can the City borrow the money from a bank instead of the USDA?

The City could borrow the money from a bank or private lender but the term would be shorter, anywhere from five to twenty years. With a lower interest rate and shorter term, the increased cost per month is from approximately \$41 to \$139. With USDA RUS funding the increased cost per month could be from approximately \$16 to \$28 per month. We won't know the exact number to project until we receive approval from the USDA and the contract bids are received for the work to be done.

City of Cascade Locks
Water System Master Plan
Friday, July 25, 2014

Project	Estimated Costs				
	Option #1	Option #2	Option #3	Option #4	Option #5
1.0 Crystal Spring Reservoir	\$ 1,034,543	\$ 1,034,543	\$ 1,034,543	\$ 1,034,543	\$ 1,034,543
2.0 Forest Lane Water Main Loop to IP	\$ 415,800	\$ 415,800			
3.0 WaNaPa Street Water Main Replacement	\$ 896,873	\$ 896,873	\$ 896,873	\$ 896,873	
4.0 Well #1 Upgrade	\$ 76,956	\$ 76,956	\$ 76,956	\$ 76,956	\$ 76,956
5.0 Well #3 Development	\$ 373,890	\$ 373,890	\$ 373,890		
6.0 Ruckel Street Water Main Replacement	\$ 368,078				
7.0 Forest Lane Water Main Replacement	\$ 408,375				
8.0 Water Management/Conservation Plan	\$ 15,000	\$ 15,000	\$ 15,000		
9.0 Water Line Leak Detection Program	\$ 50,000	\$ 50,000	\$ 50,000		
10.0 Public Works Standards Update	\$ 15,000	\$ 15,000	\$ 15,000	\$ -	\$ -
Total	\$ 3,654,515	\$ 2,878,062	\$ 2,462,262	\$ 2,008,372	\$ 1,111,499

"If" Assumptions						
Construction Bid versus Engineering Estimate	70%	\$ 2,558,161	\$ 2,014,643	\$ 1,723,583	\$ 1,405,860	\$ 778,049
Potential USDA Grant - Max		\$ 500,000	\$ -	\$ -	\$ -	\$ -
Potential to Finance		\$ 2,058,161	\$ 2,014,643	\$ 1,723,583	\$ 1,405,860	\$ 778,049

# of City Water Accounts	475	Monthly HH Income	Annual HH Income
Average Customer Charge (4,000 gallons)	\$ 21.38		
1.25% of median family income	1.25% \$ 42.73	\$ 3,418.25	\$ 41,019.00
Available for loan repayment	\$ 21.35		

Total Monthly Financing Available	\$ 10,140
Total Annual Financing Available	\$ 121,684

Monthly Increase Required by Option at 100%	\$28.66	\$22.57	\$19.31	\$15.75	\$8.72
Monthly Increase Required by Option at 70%	\$20.06	\$15.80	\$13.52	\$11.03	\$6.10
Monthly Increase Required by Option plus USDA Grant	\$16.14	\$15.80	\$13.52	\$11.03	\$6.10

Potential Financing - Option #1					
	Interest	Term	Amortized	Monthly Increase	Annual
US Bank	2.41%	5	15	\$50.98	\$290,560.63
US Bank	2.53%	7	20	\$40.88	\$233,026.03
Columbia State Bank	2.95%	10	10	\$74.11	\$422,447.82
Columbia State Bank	3.30%	15	15	\$54.25	\$309,216.44
CenterPointe Bank	3.25%	5	5	\$139.10	\$792,883.68
USDA Rural Utility Services	3.25%	40	40	\$28.66	\$163,374.90

Potential Financing - Option #2					
	Interest	Term	Amortized	Monthly Increase	Annual
US Bank	2.41%	5	15	\$40.15	\$228,826.94
US Bank	2.53%	7	20	\$32.20	\$183,516.38
Columbia State Bank	2.95%	10	10	\$58.37	\$332,692.85
Columbia State Bank	3.30%	15	15	\$42.72	\$243,519.07
CenterPointe Bank	3.25%	5	5	\$109.55	\$624,424.41
USDA Rural Utility Services	3.25%	40	40	\$22.57	\$128,663.61

Potential Financing - Option #3					
	Interest	Term	Amortized	Monthly Increase	Annual
US Bank	2.41%	5	15	\$34.35	\$195,767.81
US Bank	2.53%	7	20	\$27.54	\$157,003.36
Columbia State Bank	2.95%	10	10	\$49.93	\$284,627.98
Columbia State Bank	3.30%	15	15	\$36.55	\$208,337.33
CenterPointe Bank	3.25%	5	5	\$93.72	\$534,212.43
USDA Rural Utility Services	3.25%	40	40	\$19.31	\$110,075.29

Potential Financing - Option #4					
	Interest	Term	Amortized	Monthly Increase	Annual
US Bank	2.41%	5	15	\$28.01	\$159,680.24
US Bank	2.53%	7	20	\$22.47	\$128,061.58
Columbia State Bank	2.95%	10	10	\$40.73	\$232,160.05
Columbia State Bank	3.30%	15	15	\$29.81	\$169,932.71
CenterPointe Bank	3.25%	5	5	\$76.44	\$435,736.44
USDA Rural Utility Services	3.25%	40	40	\$15.75	\$89,784.17

Potential Financing - Option #5					
	Interest	Term	Amortized	Monthly Increase	Annual
US Bank	2.41%	5	15	\$15.50	\$88,372.29
US Bank	2.53%	7	20	\$12.43	\$70,873.48
Columbia State Bank	2.95%	10	10	\$22.54	\$128,484.99
Columbia State Bank	3.30%	15	15	\$16.50	\$94,046.34
CenterPointe Bank	3.25%	5	5	\$42.31	\$241,150.85
USDA Rural Utility Services	3.25%	40	40	\$8.72	\$49,689.50

What is the Potential Rate Increase given the Funding from USDA?

Assuming the average user in the City uses 4,000 gallon of water each month, this would be the bill:

\$ 9.50 Base Charge
.88 Meter Fee
1.00 Hydrant Maintenance Fee (Fire Flow)
\$11.38 Total Fixed Cost

\$10.00 4,000 gallons at \$2.50 per thousand gallons

\$21.38 Total Water Bill

If USDA funds the total amount, the average bill would look like this:

\$ 9.50 Base Charge
.88 Meter Fee
1.00 Hydrant Maintenance Fee (Fire Flow)
\$11.38 Total Fixed Cost

\$26.00 4,000 gallons at \$6.50 per thousand gallons

\$37.38 Total Water Bill

This assumes the engineering estimate is accurate and that the City does not receive any loan forgiveness or grants.

What is the timing for this project?

Because of the pressures from economic development activities, and because we continue to lose water each and every month, the City needs to get started now.

2 months to funding availability
5 months for construction drawings and bid documents
6 months for the actual construction

13 months total: Target September 2015 for completion

Occupancy permits for Industrial Park development required by September 2015.

Questions/Answers