

**TABLE 3 - 1**  
**PROPOSED TWENTY YEAR PLAN FOR WATER SYSTEM CAPITAL IMPROVEMENTS**

Priority	Project Description	Year	Est. Cost
<b>CAPITAL IMPROVEMENT STAGE ONE, 1997 - 2000</b>			
1.	New water supply well, piping, and electrical controls	1997	\$22,000
	Replace the Green Lane 3/4-inch supply line with 2-inch PVC	1997	2,000
	Replace the Cove Lane 2-inch GI pipe with 2-inch PVC <i>also in final stg.</i>	1997	(3,000)
2.	Rebuild pump house, mechanical & electrical code upgrades	1998	24,000
3.	High Zone tank piping replacement, and addition of a sand filter.	1998	17,000
4.	High Zone tank site, addition of a 50,000 gallon redwood tank	1999	60,000
<b>Total estimated costs for Stage One =</b>			<b>\$ 128,000</b>
<b>CAPITAL IMPROVEMENT STAGE TWO, 2001 - 2004</b>			
1.	Main High Zone tank, repair dry rot and line with protective liner.	2001	\$ 19,000
2.	Install water corrosion control and treatment system at well site	2002	20,000
3.	Add 5 Low Zone main line 4-inch control valves	2003	(11,000)
	Replace 25 High Zone service meters (first 1/2 of total)	2003	(2,000)
	Replace 3 High Zone 6 inch main line valves	2003	(8,000)
	Beginning internal cleaning of transmission main pipe line	2003	4,000
4.	Replace 2 High Zone main line valves	2004	(6,000)
	Replace 25 High Zone service meters (last 1/2 of total)	2004	(2,500)
	Complete cleaning of High & Low Zone main pipe lines, including pipe repairs, and concrete encasement of shallow lines.	2004	30,000
<b>Total estimated costs for Stage Two =</b>			<b>\$ 102,500</b>
<b>CAPITAL IMPROVEMENT STAGE THREE, 2005 - 2008</b>			
1.	Drill a new backup well including new piping, clean main well, and seal the original backup wells.	2005	\$ 24,000
2.	Replace single spout Low Zone fire hydrants (10 units)	2006	(22,000)
3.	Replace defective main line control valves throughout system	2007	(18,000)
	Replace remaining single spout fire hydrants in High Zone	2007	(6,000)

**TABLE 3 - 1, Continued**

<b>Priority</b>	<b>Project Description</b>	<b>Year</b>	<b>Est. Cost</b>
<b>Capital improvement stage three, 2005 - 2008 Continued</b>			
4.	Clean the primary well and replace pump on main well (1st new well drilled in 1996, old pump was used)	2008	15,000
	Begin high pressure cleaning of High Zone piping system	2008	10,000
<b>Total estimated costs for Stage Three =</b>			<b>\$ 97,000</b>
<b>CAPITAL IMPROVEMENT STAGE FOUR, 2009 - 2012</b>			
1.	Drain, clean and repair interior; install a liner in Low Zone tank	2009	\$ 25,000
2.	Accumulate funds to relocate and replace the transmission main	2010	24,600
3.	Continue accumulation of funds to complete Stage 4 - 2 above	2011	24,600
4.	Complete replacement and relocation of transmission main, total estimated cost of this project is \$65,000.	2012	15,800
	Replace Low Zone service meters (90 meters)	2012	9,000
<b>Total estimated costs for Stage Four =</b>			<b>\$ 99,000</b>
<b>CAPITAL IMPROVEMENT STAGE FIVE, 2013 - 2016</b>			
1.	Drain clean and repair smaller High Zone storage tank	2013	\$ 15,000
	<del>Replace Cove Lane 2-inch G. I. service main with 2" PVC</del>	<del>2013</del>	<del>4,500</del>
2.	Replace High Zone service meters (60 units)	2014	7,000
	Replace 3 valves in pressure regulating stations	2014	17,000
3 & 4	Replace distribution system piping and valves as needed	2015 - 2016	60,000
<b>Total estimated costs for Stage Five =</b>			<b>\$ 103,500</b>
<b>TOTAL ESTIMATED COSTS FOR THE TWENTY YEAR PLAN =</b>			<b>\$ 530,000</b>

**NOTES:**

1. Estimated costs are adjusted for an annual inflation rate of 3%.
2. Estimated costs include construction, engineering, and administrative costs.
3. When and where deemed feasible the rebuilding of valves, hydrants and service meters is used to determine project costs.
3. The staged construction timing attempts to anticipate the correct time for major improvements, repairs, and replacement. However, actual system operational demands will take precedence over the staged timing of events, e. g. Early failure of a used well pump will cause immediate replacement.

**SPECIAL CONSIDERATIONS**

The foregoing Schedule of Capital Improvements is premised on the condition that the distribution system piping will continue in service and not require 100% replacement. The scheduled improvements are designed to extend the life span of the general piping system and facilities, as this is considered to be the most economical methodology.

This premise is not infallible, and unknown conditions of greater existing deterioration can dictate the necessity to replace all, or at least major sections of the distribution system. Also, the last year of the Twenty Year Plan is 2016, which is one year beyond the normal life span of the distribution system piping and storage tanks. Advance planning for complete replacement, either at the end of the Twenty Year Plan, or when existing conditions dictate the need, should be considered. The estimated 100% replacement costs are estimated in Table 3-3 below, using 1996 as the base year for value.

**TABLE 3 - 2  
100% REPLACEMENT CONSIDERATIONS, 1996 DOLLARS**

<b>Item #</b>	<b>Project Description</b>	<b>Est. Cost</b>
1.	Replace High Zone 150,000 gallon storage tank with a 200,000 gallon two-celled concrete reinforced tank, including piping and controls.	\$ 335,000
2	Replace the Low Zone 100,000 gallon storage tank with a 100,000 gallon two celled concrete reinforced tank, including piping and controls. <sup>1</sup>	190,000
3.	Replace the Low Zone distribution system piping with 6 inch C-900 pipe. Note, if 100% replacement is required, 6 inch pipe should be used to conform to current day fire codes and standards.	330,000
4.	Replace the High Zone distribution system piping with 6 inch C-900 pipe.	415,000
<b>TOTAL ESTIMATED COSTS =</b>		<b>\$1,215,000</b>

*Duplicated in  
20yr. plan.*

*176,000*

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*Adjusted = 1,039,000*

<sup>1</sup> The low zone distribution system was originally constructed with 4-inch PVC pipe, and in many locations was not placed adequately deep below the land surface. Whenever repairs are required that involve more than one full length of pipe (10 feet), replacement of a full pipe section (from fire hydrant to fire hydrant, approximately 400 feet, or control valve to control valve) should be considered. The full section replacement should include a change to 6-inch pipe (in accord with current American Water Works standards), having a minimum cover of 24-inches from the top of the pipe to the finished ground surface.