

CHAPTER 6 - PROJECT FINANCING

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CHAPTER 6 – PROJECT FINANCING

A. Project Costs for Wastewater Treatment and Collection System

The project capital cost for a City of Airway Heights wastewater treatment and recharge system that would provide capacity up to 1.54 MGD is estimated to be approximately \$29.2 million (2004 dollars). The project capital cost for the additional collection system improvements required to transport the City's wastewater flow from U.S. Highway 2 to the proposed site on Lawson Road is estimated to be approximately \$2.3 million (2004 dollars). Summaries of the estimated project capital costs for the proposed treatment and collection system improvements are provided in Tables 6-1 and 6-2, respectively. The costs are listed in 2004 dollars and are not escalated to the projected bid or contract year. The escalation of costs to the various bid or contract years to account for annual inflation is performed to determine the capital improvement debt service estimates in Table 6-6, Potential Financing Scenarios for City of Airway Heights Treatment and Collection System Capital Improvement Program.

The estimated first-year operation and maintenance costs for the City of Airway Heights treatment and collection system are provided in Table 6-3 and Table 6-4, respectively. The total operation and maintenance costs are listed in 2004 dollars and are also escalated to 2010 dollars (the projected first year of operation) based on an estimated annual inflation rate of 3%. Most of the operation and maintenance costs are based on the projected 2004 City of Medical Lake and City of Cheney treatment system budgets, with quantities adjusted where applicable to adjust for the expected City of Airway Heights first-year (2010) flow and solids generation. The estimated additional collection system operation and maintenance costs are based additional power costs associated with pumping the projected first-year (2010) flow to the proposed Lawson Road treatment facility site and maintaining the additional force main, lift stations, and air release valve assemblies.

Table 6-1. Estimated City of Airway Heights Treatment System Capital Cost - 1.54 MGD Capacity

	Item	Description	Estimated Cost (\$)
			Total (1.54 MGD AAF)
1	Influent Pump Station	25' x 25' Self-Priming Pump Station Sized for 3.85 MGD Peak Flow	249,000
2	Headworks Building	40' x 60' Building with Screening, Grit Removal, Flow Metering, Sampling, Odor Control	500,000
3	Aeration Structure	3.5 MG Concrete Structure w/1.5 MG Short-term Membrane Lined Storage	3,900,000
4	Clarifiers	Two (2) 60'diameter, One (1) at 75' Diameter	1,308,000
5	Sludge Pump Station	60' x 40' Building with (4) RAS Pumps, (3) WAS Pumps, & (2) Scum Pumps	566,000
6	Effluent Filtration	90' x 80' Building w/ (3) Filters, (3) Filter Feed Pumps, Chemical Feed Systems	1,609,000
7	Disinfection System	20' x 30' Building w/UV System-(8) Low Pressure, High Intensity Modules, Utility Water System	576,000
8	Biosolids Processing	Aerated WAS Tank, 100' x 40' Building, Belt Filter Press, Conveyor, Sludge Pumps, Polymer Feed System	1,122,000
9	Discharge Facilities	1.54 MG RW Lined & Covered Reservoir, Monitoring Wells, Reuse Pumps, Infiltration Basins	602,000
10	Yard Piping	20% of Treatment Facilities Construction Cost	2,086,000
11	Electrical	12% of Treatment Facilities Construction Cost	1,252,000
12	Instrumentation & Control	8% of Treatment Facilities Construction Cost	835,000
13	Operations and Laboratory	50' x 60' Building, Laboratory, Office, Lunch Room, Bathroom	660,000
14	Site Rehabilitation	5% of Facilities Cost - Roads, Sidewalk, Landscaping, Fencing	763,000
15	Contractor Overhead & Profit	8% of Facility Construction Cost	1,282,000
16	Estimated Contract Cost		17,310,000
17	State Sales Tax	8.4% of Facility Contract Cost	1,454,000
18	Estimated Construction Cost		18,764,000
19	Project Pre-Design Phase	Engineering Special Assistance For Treatment, Collection, and RW Systems. To Address Responses to Facilities Plan, Public Participation Program, Reclaimed Water System Organization, Project Management, Funding Assistance, Pre-Design Technical Reports and Studies	650,000
20	Engineering-Design	Design - 10% of Construction Cost	1,876,000
21	Engineering-Construction	Construction - 12% of Construction Cost	2,252,000
22	Administration	3% of Construction Cost	563,000
23	Land Acquisition	75 Acres for \$310,000	310,000
24	Contingency	20% of Project Costs ²	4,753,000
	Estimated Total Treatment System Capital Cost (2004 Dollars)¹		\$29,168,000

¹ These costs have not been escalated to the estimated bid or contract year. ² Excludes project pre-design phase cost.

AAF = Annual Average Flow

MG = Million Gallons

MGD = Million Gallons Per Day

RAS = Recycle Activated Sludge

WAS = Waste Activated Sludge

UV = Ultraviolet, RW = Reclaimed Water

Table 6-2. Estimated City of Airway Heights Collection System Capital Cost

	Item	Unit	Unit Cost (\$)	Quantity	Estimated Cost (\$)
1	12" C900 Forcemain (Unpaved)	LF	53.00	5,280	280,000
2	16" C905 Forcemain (Unpaved)	LF	68.00	9,240	628,000
3	Boring/Jacking Under State Route 2	Each	30,000	0	0
4	Submersible Pump Type Lift Stations	Each	108,000	1	108,000
5	Self-Priming Pump Package Lift Station - Triplex	Each	270,000	1	270,000
6	Emergency Generators	KW	500	130	65,000
7	Air Release Valve Vaults w/Odor Control	Each	10,000	1	10,000
8	Pressure Cleanouts	Each	5,000	4	20,000
9	Subtotal				1,381,000
10	State Sales Tax	%	8.4%	1,381,000	116,000
11	Estimated Construction Cost				1,497,000
12	Engineering-Design	%	10%	1,497,000	150,000
13	Engineering-Construction	%	15%	1,497,000	225,000
14	Administration	%	3%	1,497,000	45,000
15	Contingency	%	20%	1,497,000	384,000
	Estimated Total Collection System Capital Cost (2004 Dollars)¹				2,301,000

¹ These costs have not been escalated to the estimated bid or contract year.

Table 6-3. Estimated First-Year City of Airway Heights Treatment System Operation and Maintenance Costs						
	Item	Description	Units	Unit Cost (\$)	Quantity	Estimated Cost
1	Labor	Public Works Supervisor	%	10,000	1	10,000
		Lead Operator III	100%	46,000	1	46,000
		Operator II	100%	42,000	2	84,000
		Operator I/Lab Technician	100%	40,000	1	40,000
		Personnel Benefits	%	35%	\$180,000	63,000
2	Power	KWH per year	KWH	0.05	2.00E+06	100,000
3	Chemicals	Coagulant	Lbs	2.00	6,000	12,000
		Polymer for Biosolids Dewatering	Lbs	2.00	3,000	6,000
4	Treatment Supplies & Maintenance	2% of Mechanical	%	2.0%	\$3,370,500	68,000
5	Building & Grounds Maintenance	0.5% of Buildings and Structures	%	0.40%	\$6,346,000	25,000
5	Sludge Disposal	Offsite Treatment and Disposal	Wet Ton	68.00	900	61,000
6	Laboratory Supplies	Budget	L.S	20,000	1	20,000
7	Vehicles	1 @ 10,000 miles	Mile	0.50	10,000	5,000
8	Insurance	Budget	L.S	35,000	1	35,000
9	Professional Services	Budget	L.S	8,000	1	8,000
10	Office Supplies and Small Tools		L.S	5,000	1	5,000
11	Permits and Fees		L.S	12,000	1	12,000
Estimated First-Year Treatment System Operation and Maintenance Costs (2004 Dollars)						600,000
Estimated First-Year Treatment System Operation and Maintenance Costs (2010 Dollars)¹						753,088

1. Assumes a general cost inflation rate of 3% per year.

Table 6-4. Estimated First-Year Additional City of Airway Heights Collection System Operation and Maintenance Costs					
	Item	Unit	Unit Cost (\$)	Quantity	Estimated Cost (\$)
1	Collection System - Power	KWH	\$0.05	\$168,000	8,400
2	Sewage Lift Station & ARV Maintenance (% of Cost)	%	2.0%	\$453,000	9,100
3	Collection System Inspection & Repair (% of Line Cost)	%	1.0%	\$908,000	9,100
Estimated Total First-Year Collection System Operation and Maintenance Costs (2004 Dollars)					26,600
Estimated Total First-Year Collection System Operation and Maintenance Costs (2010 Dollars)¹					31,762

1. Assumes a general cost inflation rate of 3% per year.

ARV = Air Release Valve

B. Existing and Projected Wastewater Treatment and Collection System Expenditures

The existing and projected City of Airway Heights sewer treatment and collection system operating expenditures for years 2005 through 2015 are listed in Table 6-5. The existing sewer operating expenditures are based on the 2002 and 2003 sewer operating budget expenditures projected as footnoted in Table 6-5, and based on the City of Airway Heights Water and Sewer Rate Study (Financial Consulting Solutions Group, 2003). The projected City of Spokane Sewer Contract charges have been subtracted from the projected operating budget after year 2009 when the proposed City of Airway Heights treatment facility is estimated to begin operating and the City's flows will no longer be discharged to the City of Spokane treatment facility. The capital expenditures associated with the City's six-year (2003-2008) Capital Improvement Program (CIP) are also included as existing projected expenditures. The amounts of the capital improvement expenditures are based on the remainder of the project costs being funded by exterior funding sources as presented in Table VIII-1, City of Airway Heights Comprehensive Sewer Plan (Century West Engineering, April 2003). The projected new treatment system and collection system operation and maintenance expenditures from Tables 6-3 and 6-4 are also included in Table 6-5.

Table 6-5. Estimated City of Airway Heights Sewer Treatment and Collection System Operating Expenditures (2005 – 2015)

	Projection Basis (See Footnotes)	Projected 2005	Projected 2006	Projected 2007	Projected 2008	Projected 2009	Projected 2010	Projected 2011	Projected 2012	Projected 2013	Projected 2014	Projected 2015
534 (EXISTING) OTHER GOV'T CHARGES (SEWER PORTION)												
State Assess PW	General Cost Inflation	\$ 1,047	\$ 1,079	\$ 1,111	\$ 1,144	\$ 1,179	\$ 1,214	\$ 1,251	\$ 1,288	\$ 1,327	\$ 1,367	\$ 1,408
035 (EXISTING) SEWER OPERATING EXPENDITURES												
Admin Supplies	General Cost Inflation	\$ 3,453	\$ 3,557	\$ 3,664	\$ 3,773	\$ 3,887	\$ 4,003	\$ 4,123	\$ 4,247	\$ 4,374	\$ 4,506	\$ 4,641
Dept of Revenue - Taxes	Calculated at Tax Rates	\$ 26,423	\$ 26,931	\$ 27,449	\$ 27,978	\$ 28,517	\$ 29,067	\$ 29,628	\$ 30,200	\$ 30,804	\$ 31,420	\$ 32,048
Sewer Professional Services	General Cost Inflation	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524	\$ 6,720	\$ 6,921	\$ 7,129
Sewer Contracted Labor	Labor Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Salaries/Wages	Labor Cost Inflation	\$ 83,237	\$ 87,398	\$ 91,768	\$ 96,357	\$ 101,175	\$ 106,233	\$ 111,545	\$ 117,122	\$ 122,978	\$ 129,127	\$ 135,584
Sewer Salaries P/T	Labor Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Benefits	Labor Cost Inflation	\$ 21,597	\$ 22,677	\$ 23,811	\$ 25,001	\$ 26,251	\$ 27,564	\$ 28,942	\$ 30,389	\$ 31,908	\$ 33,504	\$ 35,179
Sewer Clothing Allowance	General Cost Inflation	\$ 280	\$ 288	\$ 297	\$ 306	\$ 315	\$ 325	\$ 334	\$ 344	\$ 355	\$ 365	\$ 376
Sewer Maintenance Supplies	General Cost Inflation	\$ 1,432	\$ 1,475	\$ 1,519	\$ 1,565	\$ 1,612	\$ 1,660	\$ 1,710	\$ 1,761	\$ 1,814	\$ 1,869	\$ 1,925
Small Tools	General Cost Inflation	\$ 822	\$ 847	\$ 872	\$ 898	\$ 925	\$ 953	\$ 982	\$ 1,011	\$ 1,042	\$ 1,073	\$ 1,105
Sewer Equipment Rental	General Cost Inflation	\$ 530	\$ 546	\$ 563	\$ 580	\$ 597	\$ 615	\$ 633	\$ 652	\$ 672	\$ 692	\$ 713
Other Services and Charges	General Cost Inflation	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524	\$ 6,720	\$ 6,921	\$ 7,129
Janitorial	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Telephone Charges	General Cost Inflation	\$ 1,907	\$ 1,965	\$ 2,024	\$ 2,084	\$ 2,147	\$ 2,211	\$ 2,278	\$ 2,346	\$ 2,416	\$ 2,489	\$ 2,564
Utilities	General Infl. + Growth	\$ 3,997	\$ 4,196	\$ 4,406	\$ 4,627	\$ 4,858	\$ 5,101	\$ 5,356	\$ 5,624	\$ 5,905	\$ 6,200	\$ 6,510
Heavy Equipment	General Cost Inflation	\$ 408	\$ 421	\$ 433	\$ 446	\$ 460	\$ 474	\$ 488	\$ 502	\$ 517	\$ 533	\$ 549
Training/Travel/Conferences	General Cost Inflation	\$ 690	\$ 710	\$ 732	\$ 754	\$ 776	\$ 799	\$ 823	\$ 848	\$ 874	\$ 900	\$ 927
Spokane Sewer Contract	Spokane Sewer Contract	\$ 376,052	\$ 394,854	\$ 414,597	\$ 435,327	\$ 457,093	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Finance Salaries/Wages	Labor Cost Inflation	\$ 14,195	\$ 14,904	\$ 15,650	\$ 16,432	\$ 17,254	\$ 18,116	\$ 19,022	\$ 19,973	\$ 20,972	\$ 22,021	\$ 23,122
Finance Benefits	Labor Cost Inflation	\$ 4,686	\$ 4,920	\$ 5,166	\$ 5,424	\$ 5,695	\$ 5,980	\$ 6,279	\$ 6,593	\$ 6,923	\$ 7,269	\$ 7,632
Publication of Notices	General Cost Inflation	\$ 1,591	\$ 1,639	\$ 1,688	\$ 1,739	\$ 1,791	\$ 1,845	\$ 1,900	\$ 1,957	\$ 2,016	\$ 2,076	\$ 2,139
Insurance Expense	General Cost Inflation	\$ 6,556	\$ 6,753	\$ 6,956	\$ 7,164	\$ 7,379	\$ 7,601	\$ 7,829	\$ 8,063	\$ 8,305	\$ 8,555	\$ 8,811
Sewer Bldg Maintenance	General Cost Inflation	\$ 1,003	\$ 1,033	\$ 1,064	\$ 1,096	\$ 1,128	\$ 1,162	\$ 1,197	\$ 1,233	\$ 1,270	\$ 1,308	\$ 1,347
Vehicle Maintenance	General Cost Inflation	\$ 1,008	\$ 1,038	\$ 1,069	\$ 1,101	\$ 1,134	\$ 1,168	\$ 1,203	\$ 1,240	\$ 1,277	\$ 1,315	\$ 1,354
Fuel Charges	General Cost Inflation	\$ 1,857	\$ 1,912	\$ 1,970	\$ 2,029	\$ 2,090	\$ 2,152	\$ 2,217	\$ 2,283	\$ 2,352	\$ 2,422	\$ 2,495
Sewer Safety Expense	General Cost Inflation	\$ 334	\$ 344	\$ 355	\$ 365	\$ 376	\$ 387	\$ 399	\$ 411	\$ 423	\$ 436	\$ 449
Capital Charge	Spokane Sewer Contract	\$ 146,702	\$ 154,037	\$ 161,739	\$ 169,826	\$ 178,317	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Existing Sewer Expenditures		\$ 710,416	\$ 744,453	\$ 780,157	\$ 817,609	\$ 856,897	\$ 230,930	\$ 240,807	\$ 251,137	\$ 261,964	\$ 273,288	\$ 285,135
(EXISTING) SEWER COMPREHENSIVE PLAN SIX-YEAR CAPITAL IMPROVEMENT PROGRAM												
Inspect and Clean Sewer Mains	General Cost Inflation	\$ 9,288	\$ 9,567	\$ 9,854	\$ 10,149	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sewer Constr. – Lundstrom to Loffler ⁸	General Cost Inflation	\$ 9,288	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Septic Tank Elimination ⁸	General Cost Inflation	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
21st Avenue Sewer Ext.- Design ⁸	General Cost Inflation	\$ -	\$ 5,628	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
21st Avenue Sewer Ext. – Constr. ⁸	General Cost Inflation	\$ -	\$ 82,050	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Existing Sewer Six-Year CIP Expenditures		\$ 24,040	\$ 102,872	\$ 15,650	\$ 16,120	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Table 6-5. Estimated City of Airway Heights Sewer Treatment and Collection System Operating Expenditures (2005 – 2015)

	Projection Basis (See Footnotes)	Projected 2005	Projected 2006	Projected 2007	Projected 2008	Projected 2009	Projected 2010	Projected 2011	Projected 2012	Projected 2013	Projected 2014	Projected 2015
(NEW) TREATMENT SYSTEM O&M EXPENDITURES												
Public Works Supervisor	Labor Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,401	\$ 14,071	\$ 14,775	\$ 15,513	\$ 16,289	\$ 17,103
Lead Operator III	Labor Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 61,644	\$ 64,727	\$ 67,963	\$ 71,361	\$ 74,929	\$ 78,676
Operator II	Labor Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 112,568	\$ 118,196	\$ 124,106	\$ 130,312	\$ 136,827	\$ 143,669
Operator I/Lab Technician	Labor Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 53,604	\$ 56,284	\$ 59,098	\$ 62,053	\$ 65,156	\$ 68,414
Personnel Benefits	Labor Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 84,426	\$ 88,647	\$ 93,080	\$ 97,734	\$ 102,620	\$ 107,751
Power	General Infl. + Growth	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 119,405	\$ 124,181	\$ 129,149	\$ 134,315	\$ 139,687	\$ 145,275
Coagulant	General Infl. + Growth	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,329	\$ 14,902	\$ 15,498	\$ 16,118	\$ 16,762	\$ 17,433
Polymer for Biosolids Dewatering	General Infl. + Growth	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,164	\$ 7,451	\$ 7,749	\$ 8,059	\$ 8,381	\$ 8,716
Supplies & Maintenance	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 81,196	\$ 83,631	\$ 86,140	\$ 88,725	\$ 91,386	\$ 94,128
Building & Grounds Maintenance	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 29,851	\$ 30,747	\$ 31,669	\$ 32,619	\$ 33,598	\$ 34,606
Offsite Sludge Treatment/Disposal	General Infl. + Growth	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 72,837	\$ 75,751	\$ 78,781	\$ 81,932	\$ 85,209	\$ 88,618
Laboratory Supplies	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 23,881	\$ 24,597	\$ 25,335	\$ 26,095	\$ 26,878	\$ 27,685
Vehicles	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524	\$ 6,720	\$ 6,921
Insurance	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 41,792	\$ 43,046	\$ 44,337	\$ 45,667	\$ 47,037	\$ 48,448
Professional Services	Labor Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,721	\$ 11,257	\$ 11,820	\$ 12,411	\$ 13,031	\$ 13,683
Office Supplies and Small Tools	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,970	\$ 6,149	\$ 6,334	\$ 6,524	\$ 6,720	\$ 6,921
Permits and Fees	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,329	\$ 14,758	\$ 15,201	\$ 15,657	\$ 16,127	\$ 16,611
Total Treatment System O & M Expenditures		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 753,088	\$ 784,546	\$ 817,368	\$ 851,618	\$ 887,358	\$ 924,657
(NEW) COLLECTION SYSTEM O&M EXPENDITURES												
Utilities	General Infl. + Growth	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,030	\$ 10,883	\$ 11,808	\$ 12,811	\$ 13,900	\$ 15,082
Lift Station & ARV Maintenance	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,866	\$ 11,192	\$ 11,528	\$ 11,873	\$ 12,230	\$ 12,597
Inspection & Repair	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,866	\$ 11,192	\$ 11,528	\$ 11,873	\$ 12,230	\$ 12,597
Total Collection System O&M Expenditures		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 31,762	\$ 33,266	\$ 34,863	\$ 36,558	\$ 38,359	\$ 40,275
TOTAL SEWER SYSTEM EXPENDITURES		\$ 734,456	\$ 847,325	\$ 795,807	\$ 833,729	\$ 856,897	\$ 1,015,780	\$ 1,058,619	\$ 1,103,369	\$ 1,150,140	\$ 1,199,006	\$ 1,250,066

1. General Cost Inflation is assumed at 3% per year (based on City of Airway Heights Water and Sewer Rate Study, Financial Consulting Solutions Group, 2003).
2. State Excise Tax is assumed at 3.85% per year (based on City of Airway Heights Water and Sewer Rate Study, Financial Consulting Solutions Group, 2003).
3. Labor Cost Inflation is assumed at 5% per year (based on City of Airway Heights Water and Sewer Rate Study, Financial Consulting Solutions Group, 2003).
4. Existing Utilities Growth is assumed at 2% per year (based on City of Airway Heights Water and Sewer Rate Study, Financial Consulting Solutions Group, 2003).
5. Spokane Sewer Contract increases are assumed at 5% per year (based on City of Airway Heights Water and Sewer Rate Study, Financial Consulting Solutions Group, 2003).
6. Treatment System (Materials, Services, Utilities) Growth is assumed at 1% per year from 2010 to 2015. (Materials, utility, and service expenses tend to increase at a slower rate than flow.)
7. Collection System Growth is assumed at 5.5% per year from 2010 to 2015 (Based on Table 3-1 ERU growth projections.)
8. City portion of capital improvement expenses is based on the estimated exterior funding sources and amounts listed in Table VIII-1, City of Airway Heights Comprehensive Sewer Plan, April 2003.

C. Potential Project Funding Sources and Application Schedule

Potential sources of funding sewer treatment system capital improvements include the following:

1. Centennial Clean Water Fund (CCWF) grants;
2. State Revolving Fund (SRF) loans;
3. Public Works Trust Fund (PWTF) loans;
4. United States Department of Agriculture - Rural Development (USDA-RD) loans and grants;
5. Community Development Block Grants (CDBG);
6. Revenue Bonds;
7. General Obligation (G.O.) Bonds;
8. Capital Improvement Program (CIP) Reserve Fund; and
9. City of Spokane Capacity Buy-Back.

Each potential source of funding is discussed briefly below.

1. Centennial Clean Water Fund (CCWF). Washington State Department of Ecology (DOE) administers the CCWF. If applicants qualify for financial hardship assistance, the CCWF provides grants up to 50% of the total eligible costs, or \$5,000,000, whichever is less, for water pollution control facilities construction. For the fiscal year 2006 funding cycle, the sewer rates in the City of Airway Heights would have to exceed 1.5% of the 2005 estimated mean household income, or approximately \$41.88 per month, to qualify for a financial hardship grant. Facilities planning and design costs are not eligible for CCWF grants, but may be eligible for CCWF loans. Historically, the interest rates for CCWF loans have varied from 0 to 5.2 percent depending on the loan term (1 to 20 years). The eligibility of costs associated with the capacity of a water pollution control facility is based on 100 % of the residential flows (existing at the time that the funding application is submitted to the DOE) plus an additional 10 percent of residential flows (capacity for growth). For the fiscal year 2006 funding cycle, applications are accepted between September 1, 2004 and November 1, 2004. Funds are expected to be available late summer or early winter, 2005.

2. State Revolving Fund (SRF). The SRF is a federally financed program administered by the DOE. For the fiscal year 2006 funding cycle, the SRF provides loans at 0.5% for 5 years, or 1.5% for more than 5 years, up to a maximum loan term of 20 years. If financial hardship is established (based on the same criteria as CCWF), the DOE may provide lower interest rates, longer loan terms, or both, as determined on a case-by-case basis. The funding cycle and associated requirements are identical to the CCWF; however, the eligibility of costs associated with growth capacity differs between the Centennial and SRF programs. Under the SRF program, the reserve capacity needed to accommodate flows associated with up to a 20-year projected growth within a defined service area is SRF loan eligible.

3. Public Works Trust Fund (PWTF). The PWTF loan, administered by the Washington State Department of Community, Trade and Economic Development (CTED), provides loans for up to 20 years at varying interest rates, depending on the level of local financing participation (2% loan with 5% local matching funds, 1.0% loan with 10% local matching funds, and 0.5% loan with 15% local matching funds). Minimum local participation is 5 percent of the non-grant portion of the project. Maximum loan amount is currently \$10 million per biennium per jurisdiction for construction purposes, \$1 million per biennium per jurisdiction for pre-construction purposes (i.e., design activities), and \$100,000 per biennium per jurisdiction for planning-only loans. The planning-only loans are currently offered at 0% interest for a maximum loan period of 6 years, and do not require any local matching funds. Planning-only or pre-construction applications for PWTF loans are accepted throughout the year. Construction applications are accepted once-per-year in May. The PWTF eligible costs generally include costs associated with providing capacity for the twenty-year growth projections included in: (1) the City's Comprehensive Plan under the Growth Management Act (GMA); (2) the City's Comprehensive or General Sewer System Plan; or 20-year population projections from the Washington State Office of Financial Management (OFM).

4. United States Department of Agriculture - Rural Development (USDA-RD). The USDA-RD program provides loans and grants to communities with populations less than 10,000. The RD Water and Wastewater Disposal Program provides grants and low-interest loans when financial hardship levels are exceeded. RD generally seeks to limit the ratio of grant to loan to approximately \$1 grant for every \$2 loan. For the fiscal year 2006 funding cycle, the sewer rates in the City of Airway Heights would have to exceed 1.0% of the 2005 estimated mean household income, or approximately \$27.92 per month, to qualify for a financial hardship grant of up to 45% of the eligible costs. The hardship-based loan interest rate is currently 4.5 percent for a maximum loan period of 40 years. Loan security is normally a revenue bond ordinance, with loan repayment from utility rates, although repayment from taxes (as in a General Obligation Bond) can also be used for RD loans. It should be noted that RD will provide funding for design costs at the time construction occurs; this requires some sort of interim funding for the design effort

5. Community Development Block Grant (CDBG). The CTED also administers the CDBG program. The Washington State CDBG program is funded by the U.S. Department of Housing and Urban Development (HUD). These funds are available for water and sewer projects for low to moderate-income areas, where income levels are less than 80 percent of the county median income. Low- to middle-income property owners are the target population for these funds. The City of Airway Heights mean household income is approximately 60 percent of the county median income. The maximum program amount is about \$900,000 per annual funding cycle; however, due to the limited availability of funds, it is expected that only \$150,000 to \$250,000 may be offered per applicant per year. Applications are due in November.

6. Revenue Bonds. Revenue bonds issued by the City provide a means of borrowing funds to finance capital improvements. These bonds constitute a lien against the earnings of the utility, in this case, the water-sewer revenues. Such bonds may be issued for varying terms and interest rates, depending on the needs of the City and the municipal bond market at the time of issuance. Debt service is paid out of system revenues. The issuer is usually required to maintain utility rates at a sufficient level to pay the annual debt service plus 25 to 50 percent, which often goes into a reserve fund. Current interest rates for revenue bonds for unrated municipalities are in the 6 percent range, usually with a 20-year term.

7. General Obligation (G.O.) Bonds. G.O. bonds may be issued by municipalities to finance capital improvements such as water, sewer, streets, and drainage projects. Bonds are repaid with taxes collected against real property within the jurisdiction. Since property may be sold by the jurisdiction to collect unpaid property taxes, these types of bonds offer greater security to bondholders than revenue type bonds, and therefore generally require lower interest rates. G.O. bonds may be issued up to a maximum amount of 3/4 percent of the jurisdiction's total assessed value without voter approval. Greater amounts require voter approval. Maximum G.O. bond indebtedness is limited by state statute as 2 1/2 percent of total assessed value of the City-owned real property which may include: water, sewer, storm water, and artificial light systems; parks and open spaces; and streets. Utilization of G.O. bonds for revenue utilities, such as water or sewer, is not generally recommended because most municipalities prefer to reserve their G.O. bonding capacity for non-revenue items.

8. Capital Improvement Program (CIP) Reserve Fund. City water/sewer CIP reserve funds may be used to provide funds for the project. CIP reserve funds are typically used as local matching funds to reduce loan interest rates (as for PWTF loans) or to pay for those costs that are ineligible for other funding sources.

9. City of Spokane Capacity Buy-Back. Per the 1993 Interlocal Agreement between the City of Airway Heights and the City of Spokane, the City of Airway Heights paid to the City of Spokane a connection charge of \$969,847 (1992 dollars) for 680,000 GPD of capacity in the sewer main that connected the City of Spokane's regional collection system to the City of Airway Heights collection system at Hayford Road and State Route 2. The City of Airway Heights also paid to the City of Spokane a capital charge of \$2,040,000 (1992 dollars) for 680,000 GPD of capacity in the City of Spokane treatment system and regional pump stations. It is unknown if the City of Airway Heights' 680,000 GPD capacity in the regional collection system, treatment system, and pump stations has value to other organizations, both public and private, and at what value this capacity may be assessed. The City of Spokane may value the capacity in the treatment system and regional pump stations to offset growth within its own service area, and may be willing to negotiate a price to purchase the capacity back from the City of Airway Heights. It is unclear if the City of Spokane would want to purchase the capacity in the regional sewer collection system extension because it may extend beyond most of the City of Spokane's existing sewer customers, except for Fairchild Air Force Base. Fairchild Air Force Base also owns capacity in the same regional collection system extension, and is not expected to require additional growth capacity in the near future.

D. Project Funding Scenarios and Estimated User Fees Without Construction Phasing

Potential financing scenarios for City of Airway Heights treatment and collection system CIP are summarized in Table 6-6. The potential financing scenarios are based on financing the \$28.5 million proposed treatment system capital cost and the \$2.3 million collection system capital cost in a single design and construction phase. The financing scenarios assume that all of the additional planning and design funds will be available in 2005 and that all of the construction funds will be available in 2007. All of the financing scenarios assume that the \$310,000 land acquisition cost and loan matching funds will be financed out of the City's sewer CIP reserve fund. The scenarios also do not include the capital cost of the reclaimed water distribution system.

The potential financing scenarios are as follows:

1. A 6% Revenue or G.O. Bond for a 20-year loan period.
2. A 0% Planning-Only PWTF loan of \$100,000 for a 6-year loan period, a 2% Pre-Construction PWTF Loan for a 20-year loan period, and a 2% Construction PWTF Loan for 20-year loan periods each, and 5% local matching funds from the sewer CIP fund.
3. A 0.5% SRF loan (for additional planning) for a 5-year loan period, and 1.5% design and construction loans for 20-year loan periods each.
4. A \$5 million CCWF grant, a 0.5% SRF loan (for additional planning) for a 5-year loan period, and 1.5% SRF design and construction loans for 20-year loan periods each.
5. A \$5 million CCWF grant, a \$2 million rebate from selling the City of Airway Heights' treatment and collection system capacity buy-back to the City of Spokane, a \$200,000 CDBG, a 0.5% SRF loan (for additional planning) for a 5-year loan period, and 1.5% SRF design and construction loans for 20-year loan periods each.
6. A \$10 million RD grant, and a 4.5% RD loan for a 40-year loan period.

The associated City of Airway Heights sewer cost per Equivalent Residential Unit (ERU) for years 2005 through 2015, based on the various Table 6-6 potential financing scenarios, is shown in Figure 6-1. The cost per ERU for each year is determined by adding the projected annual City's sewer treatment and collection system operating expenditures, as shown in Table 6-5, to the yearly capital debt service for each financing scenario as indicated in Figure 6-1. The highest cost per year is estimated to be the year that the first debt service payment on the construction loan becomes due, particularly the City of Airway Heights is still required to pay the City of Spokane for sewer service. The monthly sewer cost during the estimated first years of debt service for the construction capital cost is estimated to range between \$52 to \$97 per ERU, without project phasing the design and construction of the treatment system.

Table 6-6. Potential Financing Scenarios for City of Airway Heights Treatment and Collection System Capital Improvement Program

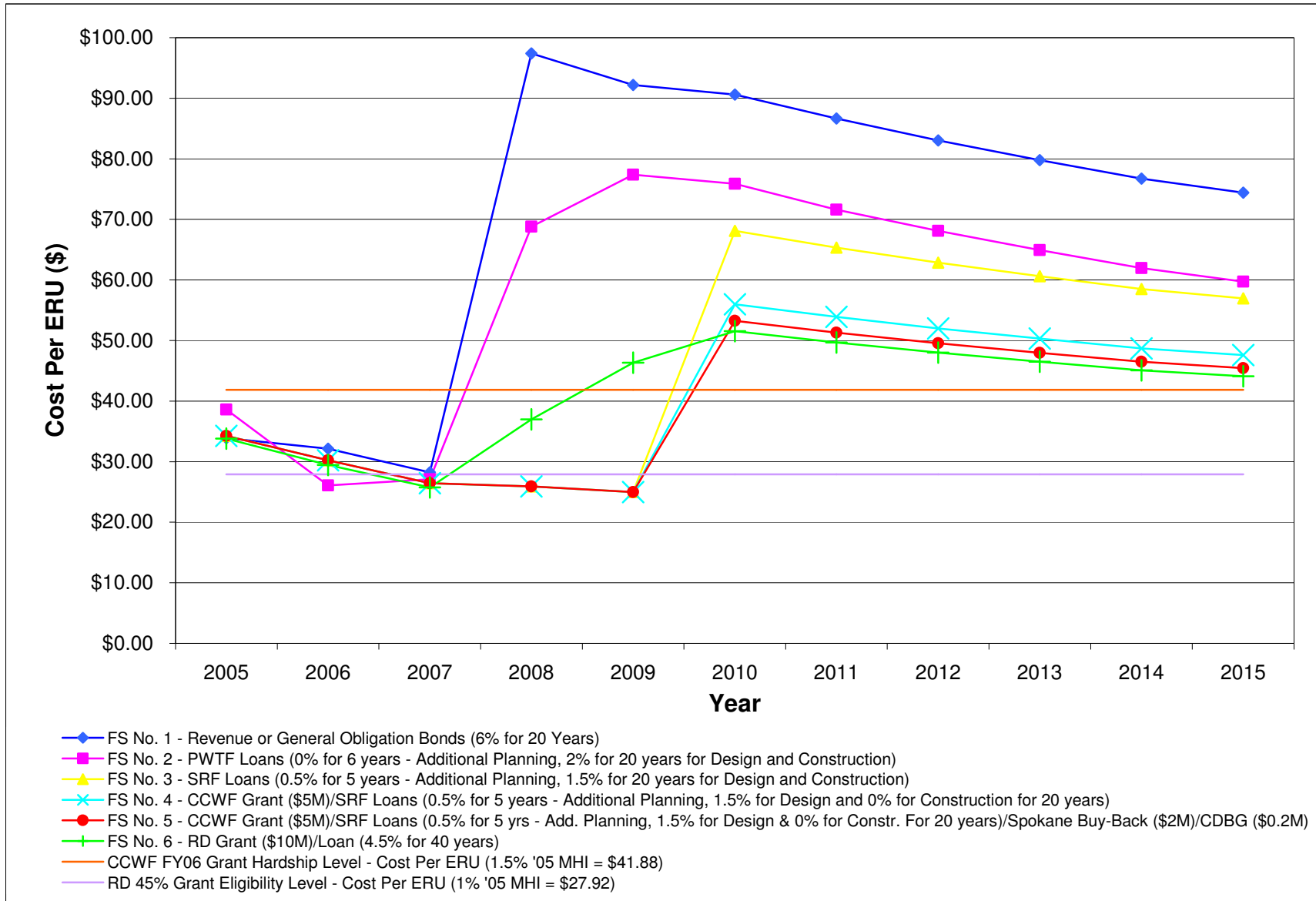
	Scenario No. 1	Scenario No. 2	Scenario No. 3	Scenario No. 4	Scenario No. 5	Scenario No. 6
	Revenue or General Obligation Bonds	PWTF Loans	SRF Loans	CCWF Grant SRF Loans	CCWF Grant SRF Loans Spokane Buy-Back CDB Grant	RD Grant & Loan
Land Acquisition						
CIP Fund (2005\$)	\$310,000	\$310,000	\$310,000	\$310,000	\$310,000	\$310,000
Additional Planning - Hydrogeologic Study						
Loan Local Matching Percent - CIP Fund	0%	0%	0%	0%	0%	0%
Loan Local Matching Amount (2004\$)	\$0	\$0	\$0	\$0	\$0	\$0
Loan Interest Rate	6.00%	0.00%	0.50%	0.50%	0.50%	4.50%
Loan Period (Years)	20	6	5	5	5	40
Loan Principal Amount (2004\$)	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Loan Capital Recovery Factor	0.087	0.167	0.203	0.203	0.203	0.054
Annual Loan Debt Service	\$8,718	\$16,667	\$20,301	\$20,301	\$20,301	\$5,434
Pre-Design/Pre-Construction/Design Engineering						
Loan Local Matching Percent - CIP Fund	0%	5%	0%	0%	0%	0%
Loan Local Matching Amount (2004\$)	\$0	\$133,800	\$0	\$0	\$0	\$0
Loan Local Matching Amount (2005\$) ²	\$0	\$137,814	\$0	\$0	\$0	\$0
Loan Interest Rate	6.00%	2.00%	1.50%	1.50%	1.50%	4.50%
Loan Period (Years)	20	20	20	20	20	40
Loan Principal Amount (2004\$)	\$2,576,000	\$2,442,200	\$2,576,000	\$2,576,000	\$2,576,000	\$2,576,000
Loan Principal Amount (2005\$) ²	\$2,653,280	\$2,515,466	\$2,653,280	\$2,653,280	\$2,653,280	\$2,653,280
Loan Capital Recovery Factor	0.087	0.061	0.058	0.058	0.058	0.054
Annual Loan Debt Service ³	\$231,325	\$153,838	\$154,542	\$154,542	\$154,542	\$144,188
Construction						
Grant Amount	\$0	\$0	\$0	\$5,000,000	\$5,200,000	\$10,000,000
City of Spokane Interceptor Capacity Buy-Back	\$0	\$0	\$0	\$0	\$2,000,000	\$0
Loan Local Matching Percent - CIP Fund	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%
Loan Local Matching Amount - CIP Fund (2004\$)	\$0	\$1,424,150	\$0	\$0	\$0	\$0
Loan Local Matching Amount (2007\$) ²	\$0	\$1,556,207	\$0	\$0	\$0	\$0
Loan Interest Rate	6.00%	2.00%	1.50%	0.00%	0.00%	4.50%
Loan Period (Years)	20	20	20	20	20	40
Loan Principal Amount (2004\$) ¹	\$28,483,000	\$27,058,850	\$28,483,000	\$23,483,000	\$21,283,000	\$18,483,000
Construction Loan Principal Amount (2007\$) ²	\$31,124,143	\$29,567,936	\$31,124,143	\$25,660,508	\$23,256,509	\$20,196,873
Loan Capital Recovery Factor	0.087	0.061	0.058	0.050	0.050	0.054
Annual Loan Debt Service ³	\$2,713,545	\$1,808,278	\$1,812,849	\$1,283,025	\$1,162,825	\$1,097,562

1. Includes all costs except land acquisition, planning, design, and matching funds.

2. Assumes money available for design in 2005 and for construction in 2007.

3. The loan debt service for PWTF loans is not amortized equally over the term of the loans. The PWTF loan annual debt service payment is distributed so that interest only is paid during first payment period, principal is paid equally over the remaining payment periods, and interest is paid on the remaining principal balance during each payment period. The distribution of the payments is represented in Figure 6-1.

Figure 6-1. City of Airway Heights Sewer Cost Per ERU Based on Potential Financing Scenarios 2005 – 2015 (Without Project Phasing and Reclaimed Water System Revenues and Debt Service)



E. Project Capital Costs With Construction Phasing

Because of the high debt service associated with financing the capital cost of the treatment system for service through 2030, it is recommended to construct the treatment system in two phases. The first phase of the treatment system would provide treatment capacity of up to 1.03 MGD, thereby providing service through year 2014, based on the ERU growth projections in Table 3-1. The second phase would increase the treatment system capacity by one-half up to 1.54 MGD, providing capacity through year 2030. The estimated treatment system capital costs by phase are listed in Table 6-7. It is estimated that approximately \$22.6 million (2004 dollars) would be required for completion of Phase 1 of the treatment system and \$5.9 million (2004 dollars) would be required for Phase 2. The estimated \$2.3 million (2004 dollars) capital cost for the collection system improvements would also be required for Phase 1 of the project.

Table 6-7. Estimated Project Capital Costs with Construction Phasing of City of Airway Heights Treatment System

Construction Phase→		Phase I	Phase II		
Annual Average Flow Capacity→		1.03 MGD AAF	1.54 MGD AAF		
Year Capacity Brought On-Line→		2010	2014		
Item No.	Item	Description of Construction ¹	Estimated Cost (\$)	Description of Construction ¹	Estimated Cost (\$)
1	Influent Pump Station	25' x 25' Self-Priming Pump Station sized for 3.85 MGD Peak Flow	249,000	None Required	0
2	Headworks Building	40' x 60' Building w/Screening, Grit Removal, Flow Metering, Sampling	500,000	None Required	0
3	Aeration Structure	Two (2) Anaerobic Basins – 0.33 MG Two (2) Anoxic Basins – 0.47 MG Two (2) Aeration Basins – 1.5 MG 1.5 MG Short-term Membrane Lined Storage	2,774,000	One (1) Anaerobic Basin – 0.165 MG One (1) Anoxic Basin - 0.23 MG One (1) Aeration Basin – 0.75 MG No Additional Membrane Storage Required	1,126,000
4	Clarifiers	Two (2) 60'-diameter Clarifiers	820,000	One (1) 75'-diameter Clarifier	488,000
5	Sludge Pump Station	60' x 40' Building with three (2) RAS Pumps, two (2) WAS Pumps, and two (2) Scum Pumps	508,000	One (1) RAS Pump One (1) WAS Pump	58,000
6	Effluent Filtration	90' x 80' Building with Two (2) Filters, Two (2) Filter Feed Pumps, and One (1) Coagulant Feed System	1,301,000	One (1) Filter, One (1) Filter Feed Pump, and One (1) Alum/PAC Feed System	308,000
7	Disinfection System	20' x 30' Building w/UV System w/(6) Low Pressure-High Intensity Modules, Advanced Oxidation Pilot System, and Utility Water System	384,000	Two (2) Low Pressure-High Intensity Modules	192,000
8	Biosolids Processing	Aerated WAS Tank, 100' x 40' Building, BFP, Conveyor, Sludge Pumps, Polymer Feed System	1,122,000	None Required	0
9	Discharge Facilities	1.54 MG RW Lined & Covered Reservoir, Monitoring Wells, Reuse Pumps, Infiltration Basins – 400,000 sq.ft.	502,000	Infiltration Basins - 200,000 sq.ft.	100,000
10	Yard Piping	20% of Treatment Facilities Construction Cost	1,632,000	20% of Treatment Facilities Construction Cost	454,000
11	Electrical	12% of Treatment Facilities Construction Cost	979,000	12% of Treatment Facilities Construction Cost	273,000
12	Instrumentation & Control	8% of Treatment Facilities Construction Cost	653,000	8% of Treatment Facilities Construction Cost	182,000
13	Operations and Laboratory	50' x 60' Building, Laboratory, Office, Lunch Room, Bathroom	660,000	None Required	0
14	Site Rehabilitation	5% of Facilities Cost	604,000	5% of Facilities Cost	159,000
15	Contractor Overhead & Profit	8% of Facility Construction Cost	1,015,000	8% of Facility Construction Cost	267,000
16	Estimated Contract Cost		13,703,000		3,607,000
17	State Sales Tax	8.4% of Facility Contract Cost	1,151,000	8.4% of Facility Contract Cost	303,000
18	Estimated Construction Cost		14,854,000		3,910,000
19	Project Pre-Design Phase	For Treatment, Collection, and RW Systems ³	650,000		0
20	Engineering-Design	Design - 10% of Construction Cost	1,485,000	Design - 10% of Construction Cost	391,000
21	Engineering-Construction	Construction - 12% of Construction Cost	1,782,000	Construction - 12% of Construction Cost	470,000
22	Administration	3% of Construction Cost	446,000	3% of Construction Cost	117,000
23	Land Acquisition	75 Acres for \$310,000	310,000	None Required	0
24	Contingency	20% of Project Costs ⁴	3,775,000	20% of Project Costs	978,000
Estimated Total Project Cost (2004 Dollars)²			23,302,000		5,866,000

1 Construction items include associated interior piping and some equipment. 2. These costs have not been escalated to the estimated bid or contract year. 3. Engineering Special Assistance To Address Responses to Facilities Plan, Public Participation Program, Reclaimed Water System Organization, Project Management, Funding Assistance, Pre-Design Technical Reports and Studies. 4. Does not include pre-design phase cost.

AAF = Annual Average Flow, MG = Million Gallons, MGD = Million Gallons Per Day, RAS = Recycle Activated Sludge, WAS = Waste Activated Sludge, UV = Ultraviolet, RW = Reclaimed Water

F. Project Funding Scenarios and Estimated User Fees With Construction Phasing

Potential financing scenarios for Phase 1 and 2 of the proposed City of Airway Heights treatment and collection system CIP are summarized in Tables 6-8 and 6-9, respectively. The potential financing scenarios are based on financing the \$23.3 million proposed treatment system capital cost and the \$2.3 million collection system capital cost in Phase 1 of the project. The Phase 1 financing scenarios assume that the Phase 1 additional planning and design funds will be available in 2005 and that the Phase 1 construction funds will be available in 2007. The Phase 2 financing scenarios are based on financing the remaining \$5.9 million dollar treatment system capital cost in Phase 2 of the project. The Phase 2 financing scenarios assume that the Phase 2 design funds will be available in 2011 and the Phase 2 construction funds will be available in 2012. The potential financing scenarios assume the same portion of grants and loans at the same interest rates and loan periods as those for financing the non-phased project. As previously, all of the financing scenarios assume that the \$310,000 land acquisition cost and loan matching funds will be financed out of the City's sewer CIP reserve fund. The scenarios also do not include the capital cost of the reclaimed water distribution system.

The associated City of Airway Heights sewer cost per ERU for years 2005 through 2015, based on the Table 6-8 and 6-9 potential financing scenarios, is shown in Figure 6-2. The cost per ERU for each year is determined by adding the projected annual City's sewer treatment and collection system operating expenditures, as shown in Table 6-5, to the yearly capital debt service for each financing scenario as indicated in Figure 6-2. Again, the highest cost per year is estimated to be the first year that the first debt service payment on the (Phase 1) construction loan becomes due. The monthly sewer cost during the estimated first years of debt service for Phase 1 construction is estimated to range between \$44 to 83 per ERU depending on the financing scenario. The monthly sewer cost during year 2014 (the first year of debt service for Phase 2 construction) is estimated to range between \$46 to 78 per ERU. This estimated range for Phase 2 does not include the impact of any additional grants beyond the Phase 1.

Table 6-8. Potential Financing Scenarios for City of Airway Heights Treatment and Collection System Capital Improvement Program - Phase I

	Scenario No. 1	Scenario No. 2	Scenario No. 3	Scenario No. 4	Scenario No. 5	Scenario No. 6
	Revenue or General Obligation Bonds	PWTF Loans	SRF Loans	CCWF Grant SRF Loans	CIP Fund/CCWF Grant SRF Loan Spokane Buy-Back CDB Grant	Rural Development Grant & Loan
Land Acquisition						
CIP Fund (2005\$)	\$310,000	\$310,000	\$310,000	\$310,000	\$310,000	\$310,000
Additional Planning - Hydrogeologic Study						
Loan Local Matching Percent - CIP Fund	0%	0%	0%	0%	0%	0%
Loan Local Matching Amount (2004\$)	\$0	\$0	\$0	\$0	\$0	\$0
Loan Interest Rate	6.00%	0.00%	0.50%	0.50%	0.50%	4.50%
Loan Period (Years)	20	6	5	5	5	40
Loan Principal Amount (2004\$)	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Loan Capital Recovery Factor	0.087	0.167	0.203	0.203	0.203	0.054
Annual Loan Debt Service	\$8,718	\$16,667	\$20,301	\$20,301	\$20,301	\$5,434
Pre-Design/Pre-Construction/Design Engineering						
Loan Local Matching Percent - CIP Fund	0%	5%	0%	0%	0%	0%
Loan Local Matching Amount (2004\$)	\$0	\$114,250	\$0	\$0	\$0	\$0
Loan Local Matching Amount (2005\$) ²	\$0	\$117,678	\$0	\$0	\$0	\$0
Loan Interest Rate	6.00%	2.00%	1.50%	1.50%	1.50%	4.50%
Loan Period (Years)	20	20	20	20	20	40
Loan Principal Amount (2004\$)	\$2,185,000	\$2,070,750	\$2,185,000	\$2,185,000	\$2,185,000	\$2,185,000
Loan Principal Amount (2005\$) ²	\$2,250,550	\$2,132,873	\$2,250,550	\$2,250,550	\$2,250,550	\$2,250,550
Loan Capital Recovery Factor	0.087	0.061	0.058	0.058	0.058	0.054
Annual Loan Debt Service ³	\$196,213	\$130,439	\$131,085	\$131,085	\$131,085	\$122,302
Construction¹						
Grant Amount	0	0	0	5,000,000	5,200,000	10,000,000
City of Spokane Capacity Buy-Back	0	0	0	0	2,000,000	0
Loan Local Matching Percent - CIP Fund	0%	5%	0%	0%	0%	0%
Loan Local Matching Amount (2004\$)	0	1,150,400	0	0	0	0
Loan Local Matching Amount (2007\$) ²	0	1,294,785	0	0	0	0
Loan Interest Rate	6.00%	2.00%	1.50%	0.00%	0.00%	4.50%
Loan Period (Years)	20	20	20	20	20	40
Loan Principal Amount (2004\$) ¹	23,008,000	21,857,600	23,008,000	18,008,000	15,808,000	13,008,000
Construction Loan Principal Amount (2007\$) ²	\$25,141,463	\$23,884,390	\$25,141,463	\$19,677,828	\$17,273,828	\$14,214,193
Loan Capital Recovery Factor	0.087	0.061	0.058	0.050	0.050	0.054
Annual Loan Debt Service ³	\$2,191,947	\$1,460,691	\$1,464,383	\$983,891	\$863,691	\$772,444

1. Includes all costs except land acquisition, planning, design, and matching funds for planning and design loans. 2. Assumes money available for design in 2005 and for construction in 2007.

3. The loan debt service for PWTF loans is not amortized equally over the term of the loans. The PWTF loan annual debt service payment is distributed so that interest only is paid during first payment period, principal is paid equally over the remaining payment periods, and interest is paid on the remaining principal balance during each payment period. Distribution of the payments is represented in Figure 6-2.

Table 6-9. Potential Financing Scenarios for City of Airway Heights Treatment and Collection System Capital Improvement Program - Phase II

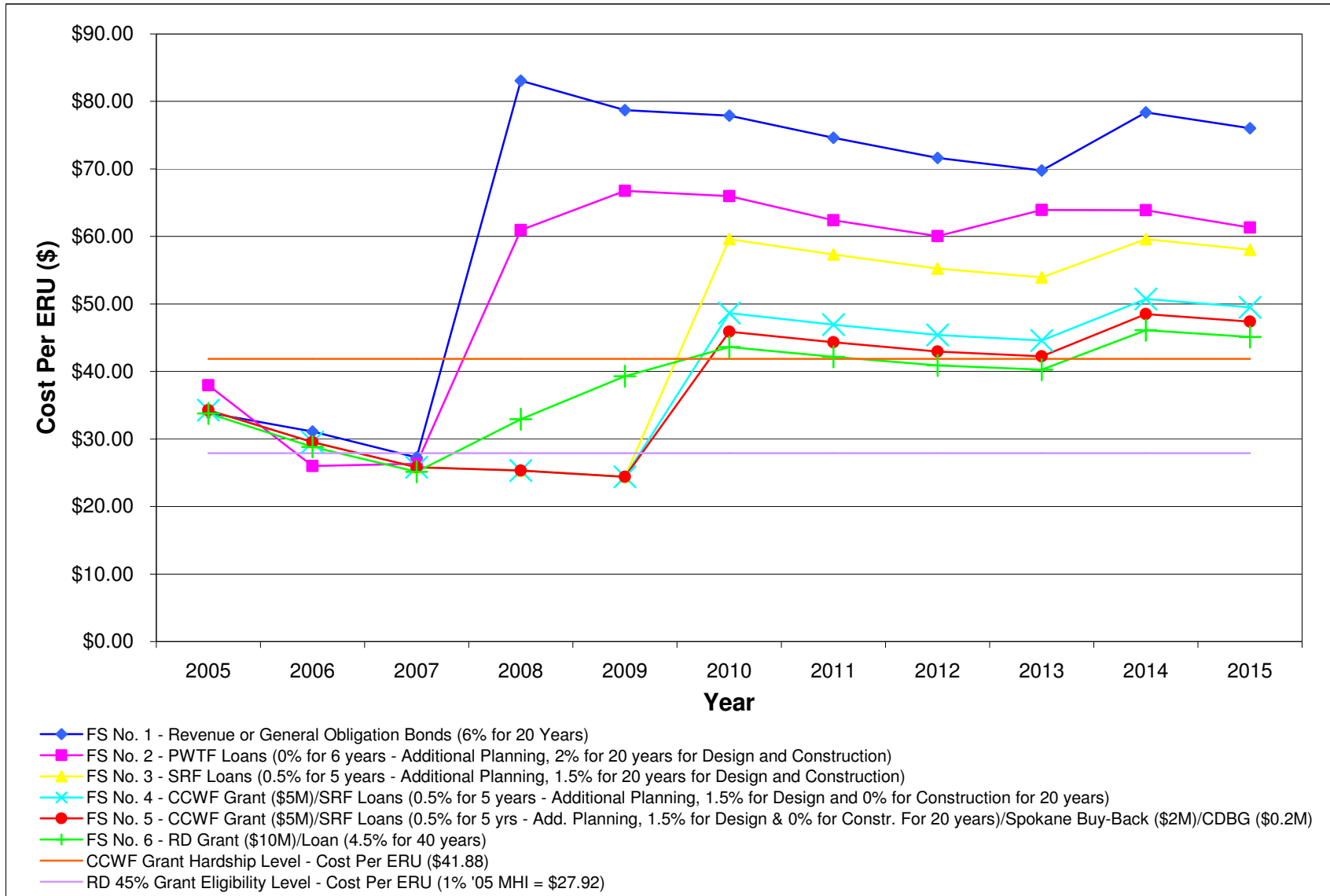
	Scenario No. 1	Scenario No. 2	Scenario No. 3	Scenario No. 4	Scenario No. 5	Scenario No. 6
	Revenue or General Obligation Bonds	PWTF Loans	SRF Loans	CCWF Grant SRF Loans	CIP Fund CCWF Grant SRF Loan Spokane Buy-Back CDB Grant	RD Grant & Loan
Pre-Construction/Design Engineering						
Loan Local Matching Percent - CIP Fund	0%	5%	0%	0%	0%	0%
Loan Local Matching Amount (2004\$)	\$0	\$19,550	\$0	\$0	\$0	\$0
Loan Local Matching Amount (2011\$) ²	\$0	\$24,765	\$0	\$0	\$0	\$0
Loan Interest Rate	6.00%	2.00%	1.50%	1.50%	1.50%	4.50%
Loan Period (Years)	20	20	20	20	20	40
Loan Principal Amount (2004\$)	\$391,000	\$371,450	\$391,000	\$391,000	\$391,000	\$391,000
Loan Principal Amount (2011\$) ²	\$480,881	\$456,837	\$480,881	\$480,881	\$480,881	\$480,881
Loan Capital Recovery Factor	0.087	0.061	0.058	0.058	0.058	0.054
Annual Loan Debt Service ³	\$41,925	\$27,939	\$28,009	\$28,009	\$28,009	\$26,133
Construction¹						
Grant Amount	\$0	\$0	\$0	\$0	\$0	\$0
City of Spokane Interceptor Capacity Buy-Back	\$0	\$0	\$0	\$0	\$0	\$0
Loan Local Matching Percent - CIP Fund	0%	5%	0%	0%	0%	0%
Loan Local Matching Amount (2004\$)	\$0	\$273,750	\$0	\$0	\$0	\$0
Loan Local Matching Amount (2012\$) ²	\$0	\$308,108	\$0	\$0	\$0	\$0
Loan Interest Rate	6.00%	2.00%	1.50%	1.50%	1.50%	4.50%
Loan Period (Years)	20	20	20	20	20	40
Loan Principal Amount (2004\$) ¹	\$5,475,000	\$5,201,250	\$5,475,000	\$5,475,000	\$5,475,000	\$5,475,000
Construction Loan Principal Amount (2012\$) ²	\$6,935,566	\$6,588,788	\$6,935,566	\$6,935,566	\$6,935,566	\$6,935,566
Loan Capital Recovery Factor	0.087	0.061	0.058	0.058	0.058	0.054
Annual Loan Debt Service ³	\$604,674	\$402,949	\$403,967	\$403,967	\$403,967	\$376,900

1. Includes all costs for Phase II construction except design and design matching funds.

2. Assumes money available for design in 2011 and for construction in 2012.

3. The loan debt service for PWTF loans is not amortized equally over the term of the loans. The PWTF loan annual debt service payment is distributed so that interest only is paid during first payment period, principal is paid equally over the remaining payment periods, and interest is paid on the remaining principal balance during each payment period. Distribution of the payments is represented in Figure 6-2 and 6-3.

Figure 6-2. City of Airway Heights Sewer Cost Per ERU Based on Potential Financing Scenarios 2005 – 2015 (With Project Phasing and Without Reclaimed Water System Revenues and Debt Service)



G. Project Costs for Reclaimed Water Distribution System

A summary of the estimated capital costs for the proposed City of Airway Heights reclaimed water distribution system is included in Table 6-10. The layout of the proposed reclaimed water distribution system is shown in Figure 4-6, Reclaimed Water and Sewer Forcemain Routing for Site Alternative No. 4. The estimated capital cost of the proposed reclaimed water distribution system is \$2.8 million (2004 dollars). The proposed reclaimed water distribution system would provide capacity up to 2.5 MGD peak hourly flow. This is expected to serve the existing needs of the high volume municipal, institutional, and commercial water users listed in Table 4-1, Potential Reclaimed Water Customers.

The estimated operation and maintenance costs for the reclaimed water distribution system are listed in Table 6-11. The total operation and maintenance costs are listed in 2004 dollars and are also escalated to 2010 dollars (the projected first year of operation of the distribution system) based on an estimated annual inflation rate of 3%. The estimated distribution system operation and maintenance costs are based on power costs associated with pumping approximately 0.5 MGD from May through October each year to the potential reclaimed water customers listed in Table 4-1 and maintaining the distribution system force main, lift stations, and air release valve assemblies.

Table 6-10. Estimated City of Airway Heights Reclaimed Water Distribution System Capital Costs

	Item	Unit	Unit Cost (\$)	Quantity	Estimated Cost (\$)
1	12" C900 Common Distribution (Unpaved)	LF	53.00	15,840	840,000
2	12" C900 Common Distribution (Paved)	LF	65.50	10,560	692,000
3	Additional 12" C900 Forcemain (Unpaved)	LF	53.00	1,320	70,000
4	Additional 16" C900 Forcemain (Unpaved)	LF	68.00	0	0
5	Boring/Jacking	Each	30,000	1	30,000
6	Reclaimed Water Pump Station (High Head)	Each	37,800	0	0
7	Reclaimed Water Pump Station (Medium Head)	Each	34,800	0	0
8	Reclaimed Water Pump Station (Low Head)	Each	28,000	2	56,000
9	Air Release Valve Vaults	Each	7,000	1	7,000
10	Subtotal				1,695,000
11	State Sales Tax	%	8.4%	1,695,000	142,000
12	Estimated Construction Cost				1,837,000
13	Engineering-Design	%	10%	1,837,000	184,000
14	Engineering-Construction	%	15%	1,837,000	276,000
15	Administration	%	3%	1,837,000	55,000
16	Contingency	%	20%	1,837,000	471,000
	Estimated Total Reclaimed Water System Capital Cost (2004 Dollars)¹				2,823,000

1. These costs have not been escalated to the estimated bid or contract year.

Table 6-11. Estimated City of Airway Heights Reclaimed Water Distribution System Operation and Maintenance Costs

	Item	Unit	Unit Cost (\$)	Quantity	Estimated Cost (\$)
1	Power	KWH	\$0.05	61,000	3,100
2	RW Pump Station & ARV Maintenance (% of Cost)	%	2.0%	63,000	1,300
3	Distribution System Inspection & Repair (% of Line Cost)	%	0.5%	1,602,000	8,100
	Estimated Total First-Year Reclaimed Water System Operation and Maintenance Costs (2004 Dollars)				12,500
	Estimated Total First-Year Reclaimed Water System Operation and Maintenance Costs (2010 Dollars)¹				15,926

1. Assumes a general cost inflation rate of 3%.

H. Projected Wastewater Treatment, Collection, and Reclamation System Expenditures

The estimated City of Airway Heights sewer treatment, collection, and reclamation system operating expenditures for years 2005 through 2015 are listed in Table 6-12. The existing treatment and collection system expenditures are from Table 6-5. The table includes the reclaimed water distribution system operation and maintenance expenditures from Table 6-11 and estimated reclaimed water distribution system revenues. The reclaimed water distribution system expenditures and revenues are projected beginning year 2010, the expected initial year of operation of the distribution system.

The reclaimed water system revenues are based on income from two sources:

1. Seasonal distribution of reclaimed water (RW) to the potential reclaimed water customers. Revenues assume 94 MG sold each year at the existing City commercial water rate of \$1.73 per 1000 gallons of water with prices increased at an inflation rate of 3% per year. The quantity sold is based on an estimated yearly 0.513 MGD demand from May through October from the potential reclaimed water customers listed in Table 4-1.
2. Recovery of reclaimed water discharged to the groundwater aquifer and resold to potential reclaimed water customers. Revenues assume the reclaimed water discharged to the ground throughout the year is recovered by supply wells and resold at the existing City commercial water rate of \$1.73 per 1000 gallons of water with prices increased at an inflation rate of 3% per year. The amount discharged to the ground is estimated to be equal to the volume of wastewater treated minus the quantity discharged directly to the reclaimed water distribution system. The volume of wastewater treated, and therefore a portion of the reclaimed water recovered, is estimated to increase each year based on the wastewater flow projections in Table 3-2.

Revenues from the reclaimed water distribution system are expected to offset potable water supply system revenues unless reclaimed water users not currently on the potable water supply system are serviced. Thus, the sewer revenues shown in Table 6-12 may not necessarily be revenues for the combined water/sewer system operating budget.

Table 6-12. Estimated City of Airway Heights Wastewater Treatment, Collection, and Reclamation System Operating Budget (2005 – 2015)

	Projection Basis (See Footnotes)	Projected 2005	Projected 2006	Projected 2007	Projected 2008	Projected 2009	Projected 2010	Projected 2011	Projected 2012	Projected 2013	Projected 2014	Projected 2015
TREATMENT AND COLLECTION SYSTEM EXPENDITURES (From Table 6-5)												
Total Existing Sewer Expenditures		\$ 710,416	\$ 744,453	\$ 780,157	\$ 817,609	\$ 856,897	\$ 230,930	\$ 240,807	\$ 251,137	\$ 261,964	\$ 273,288	\$ 285,135
Total Existing Sewer Six-Year CIP Expenditures		\$ 24,040	\$ 102,872	\$ 15,650	\$ 16,120	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Treatment System O & M Expenditures		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 753,088	\$ 784,546	\$ 817,368	\$ 851,618	\$ 887,358	\$ 924,657
Total Additional Collection System O&M Expenditures		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 31,762	\$ 33,266	\$ 34,863	\$ 36,558	\$ 38,359	\$ 40,275
Total Treatment and Collection System Expenditures¹		\$ 734,456	\$ 847,325	\$ 795,807	\$ 833,729	\$ 856,897	\$ 1,015,780	\$ 1,058,619	\$ 1,103,369	\$ 1,150,140	\$ 1,199,006	\$ 1,250,066
RECLAIMED WATER DISTRIBUTION SYSTEM OPERATION AND MAINTENANCE EXPENDITURES												
Utilities	General Cost Inflation ²	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,702	\$ 3,813	\$ 3,927	\$ 4,045	\$ 4,166	\$ 4,291
RW Pump Station & ARV Maint.	General Cost Inflation ²	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,552	\$ 1,599	\$ 1,647	\$ 1,696	\$ 1,747	\$ 1,800
Inspection & Repair	General Cost Inflation ²	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,672	\$ 9,962	\$ 10,261	\$ 10,569	\$ 10,886	\$ 11,212
Total RW Distribution System O&M Expenditures		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,926	\$ 15,373	\$ 15,835	\$ 16,310	\$ 16,799	\$ 17,303
RECLAIMED WATER DISTRIBUTION SYSTEM REVENUES												
Seasonal Distribution of RW	General Cost Inflation ²	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 193,436	\$ 199,240	\$ 205,217	\$ 211,373	\$ 217,714	\$ 224,246
Water Recovered From Wells ³	General Infl. + Growth ⁴	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 240,005	\$ 260,405	\$ 282,539	\$ 306,555	\$ 332,612	\$ 360,884
Total RW Distribution System Revenues⁵		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 433,441	\$ 459,644	\$ 487,756	\$ 517,928	\$ 550,327	\$ 585,130
TOTAL PROJECTED OPERATING BUDGET		\$ 734,456	\$ 847,325	\$ 795,807	\$ 833,729	\$ 856,897	\$ 597,265	\$ 614,348	\$ 631,447	\$ 648,521	\$ 665,478	\$ 682,239

1. Refer to Table 6-5 for assumptions in determining projected Existing Sewer Expenditures, Existing Sewer Six-Year CIP Expenditures, Treatment System O & M Expenditures, and Additional Collection System O & M Expenditures.

2. General Cost Inflation is assumed at 3% per year (based on City of Airway Heights Water and Sewer Rate Study, Financial Consulting Solutions Group, 2003).

3. Assumes a portion of the reclaimed water discharged to the ground is recovered and resold.

4. Growth in water recovered from wells is assumed at 5.5% per year from 2010 to 2015 (Based on Table 3-1 ERU growth projections.)

5. Revenues assume \$1.73 per 1000 gallons of water based on the proposed commercial volume charge for potable water in the City of Airway Heights Water and Sewer Rate Study, Financial Consulting Solutions Group,

2003. Revenues from reclaimed water distribution are expected to offset potable water supply system revenues unless reclaimed water users not currently on the potable supply system are serviced.

I. Project Funding Scenarios and Estimated User Fees Including Reclaimed Water Distribution System

To benefit from potential revenues from the sale of reclaimed water and conserve its existing potable water supply resources, the City plans to design and construct the reclaimed water distribution system in Phase 1 of the project, if capital funds are available. In addition to the proposed \$23.3 million treatment system capital cost and the \$2.3 million collection system capital cost, approximately \$2.8 million would be required for the design and construction of the reclaimed water distribution system in Phase 1. The Phase 2 financing scenarios are based on financing the remaining \$5.9 million dollar treatment system capital cost in Phase 2 of the project.

The potential financing scenarios for Phase 1 that include the capital cost of the reclaimed water distribution system are summarized in Table 6-13. The potential financing scenarios for Phase 2 are identical to the previous phase 2 financing scenarios that are summarized in Table 6-9. As before, the Phase 1 financing scenarios assume that the Phase 1 additional planning and design funds will be available in 2005 and that the Phase 1 construction funds will be available in 2007. The Phase 2 financing scenarios assume that the Phase 2 design funds will be available in 2011 and the Phase 2 construction funds will be available in 2012. The potential financing scenarios assume the same portion of grants and loans at the same interest rates and loan periods as those for financing the project without including the reclaimed water distribution system. As before, all of the financing scenarios assume that the \$310,000 land acquisition cost and loan matching funds will be financed out of the City's sewer CIP reserve fund.

The associated City of Airway Heights sewer cost per ERU for years 2005 through 2015, based on the Table 6-9 and 6-13 potential financing scenarios, is shown in Figure 6-3. The cost per ERU for each year is determined by adding the estimated yearly sewer treatment, collection, and reclaimed water system operating expenditures and revenues, as shown in Table 6-12, to the capital debt service for each financing scenario as indicated in Figure 6-3. Again, the highest cost per year is estimated to be the first year of (Phase 1) construction when the first debt service payment on the (Phase 1) construction loan becomes due. The monthly sewer cost during the estimated first years of debt service for Phase 1 construction is estimated to range between \$38 to 90 per ERU depending on the financing scenario. The monthly sewer cost during year 2014 (the first year of debt service for Phase 2 construction) is estimated to range between \$39 to \$73 per ERU. This estimated range for Phase 2 does not include the impact of any additional grants beyond the Phase 1.

Table 6-13. Potential Financing Scenarios for City of Airway Heights Wastewater Treatment, Collection, and Reclaimed Water System Capital Improvement Program - Phase I

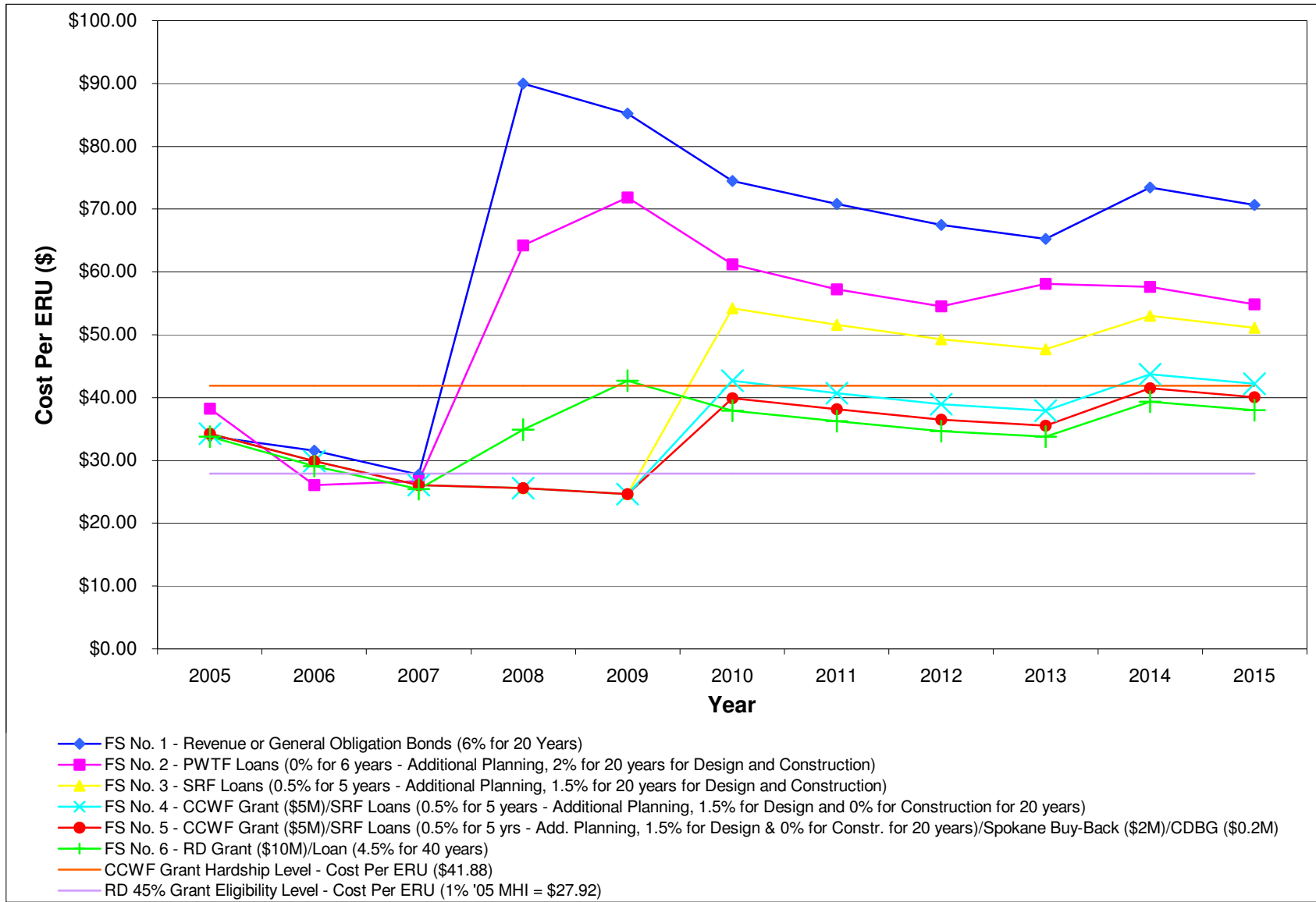
	Scenario No. 1	Scenario No. 2	Scenario No. 3	Scenario No. 4	Scenario No. 5	Scenario No. 6
	Revenue or General Obligation Bonds	PWTF Loans	SRF Loans	CCWF Grant SRF Loans	CIP Fund/CCWF Grant SRF Loan Spokane Buy-Back CDB Grant	Rural Development Grant & Loan
Land Acquisition						
CIP Fund (2005\$)	\$310,000	\$310,000	\$310,000	\$310,000	\$310,000	\$310,000
Additional Planning - Hydrogeologic Study						
Loan Local Matching Percent - CIP Fund	0%	0%	0%	0%	0%	0%
Loan Local Matching Amount (2004\$)	\$0	\$0	\$0	\$0	\$0	\$0
Loan Interest Rate	6.00%	0.00%	0.50%	0.50%	0.50%	4.50%
Loan Period (Years)	20	6	5	5	5	40
Loan Principal Amount (2004\$)	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Loan Capital Recovery Factor	0.087	0.167	0.203	0.203	0.203	0.054
Annual Loan Debt Service	\$8,718	\$16,667	\$20,301	\$20,301	\$20,301	\$5,434
Pre-Design/Pre-Construction/Design Engineering						
Loan Local Matching Percent - CIP Fund	0%	5%	0%	0%	0%	0%
Loan Local Matching Amount (2004\$)	\$0	\$123,450	\$0	\$0	\$0	\$0
Loan Local Matching Amount (2005\$) ²	\$0	\$127,154	\$0	\$0	\$0	\$0
Loan Interest Rate	6.00%	2.00%	1.50%	1.50%	1.50%	4.50%
Loan Period (Years)	20	20	20	20	20	40
Loan Principal Amount (2004\$)	\$2,369,000	\$2,245,550	\$2,369,000	\$2,369,000	\$2,369,000	\$2,369,000
Loan Principal Amount (2005\$) ²	\$2,440,070	\$2,312,917	\$2,440,070	\$2,440,070	\$2,440,070	\$2,440,070
Loan Capital Recovery Factor	0.087	0.061	0.058	0.058	0.058	0.054
Annual Loan Debt Service ³	\$212,736	\$141,450	\$142,124	\$142,124	\$142,124	\$132,601
Construction¹						
Grant Amount	\$0	\$0	\$0	\$5,000,000	\$5,200,000	\$10,000,000
City of Spokane Capacity Buy-Back	\$0	\$0	\$0	\$0	\$2,000,000	\$0
Loan Local Matching Percent - CIP Fund	0%	5%	0%	0%	0%	0%
Loan Local Matching Amount (2004\$)	\$0	\$1,282,350	\$0	\$0	\$0	\$0
Loan Local Matching Amount (2007\$) ²	\$0	\$1,401,258	\$0	\$0	\$0	\$0
Loan Interest Rate	6.00%	2.00%	1.50%	0.00%	0.00%	4.50%
Loan Period (Years)	20	20	20	20	20	40
Loan Principal Amount (2004\$) ¹	\$25,647,000	\$24,364,650	\$25,647,000	\$20,647,000	\$18,447,000	\$15,647,000
Construction Loan Principal Amount (2007\$) ²	\$28,025,169	\$26,623,911	\$28,025,169	\$22,561,534	\$20,157,535	\$17,097,899
Loan Capital Recovery Factor	0.087	0.061	0.058	0.050	0.050	0.054
Annual Loan Debt Service ³	\$2,443,362	\$1,628,231	\$1,632,347	\$1,128,077	\$1,007,877	\$929,154

Note: This table assumes all of the reclaimed water distribution system is constructed in Phase 1. Therefore, Phase 2 financing scenarios remain the same as in Table 6-9.

1. Includes all costs for Phase 1 except land acquisition, planning, design, and matching funds for planning and design. 2. Assumes money available for design in 2005 and for construction in 2007.

3. The loan debt service for PWTF loans is not amortized equally over the term of the loans. The PWTF loan annual debt service payment is distributed so that interest only is paid during first payment period, principal is paid equally over the remaining payment periods, and interest is paid on the remaining principal balance during each payment period. Distribution of the payments is represented in Figure 6-3.

Figure 6-3. City of Airway Heights Sewer Cost Per ERU Based on Potential Financing Scenarios 2005 – 2015 (With Project Phasing and Reclaimed Water System Revenues and Debt Service)



J. Recommended Funding Approach

1. General recommendations for financing the entire project include the following:
 - a. Continue to implement periodic sewer rate increases to build up sewer capital improvement program (CIP) reserve money. The CIP money can then be used for matching various funding sources, reducing debt service interest rates where applicable, and lessen the impacts of project costs on sewer rates during the project's highest expense years.
 - b. Implement construction phasing of the project. Project phasing will:
 - 1) "Equalize" the project's capital expenditures over more years, reducing the impacts on sewer rates during the project's highest expense (and fewest ERU) years; and
 - 2) Allow the application for loans and/or grants for other phase(s) of the project, beyond the first phase.
 - c. Negotiate with the City of Spokane and/or other interested parties regarding purchase of the City of Airway Heights' capacity in the regional treatment and collection system. Use these funds to match other funding source loans, reducing debt service interest rates where applicable.
2. The recommended approach for funding the additional planning and design for Phase 1 includes the following tasks:
 - a. Submit a PWTF planning loan application in late 2004 for \$100,000 at 0% interest rate for 5 years. Use funds for hydrogeologic study of proposed site. Funds are expected to be available in February - March 2005.
 - b. Submit PWTF pre-construction loan application in early 2005 for a \$1 million principal amount. Use funds for design purposes. Amount of available matching funds will determine the 20-year loan interest rate as follows: \$50,000 for 2% interest rate, \$100,000 for 1.0% interest rate, \$150,000 for 0.5% interest rate. Funds are expected to be available in February - March 2005. Submit second PWTF loan application after July 2005 (in the new biennium) for maximum amount eligible (the limit may be increased to \$2 million).
 - c. Submit SRF loan application in November 2005 (FY 2007 funding cycle) for entire Phase 1 design contract amount (estimated to be approximately \$2.5 million in 2005 dollars for Phase 1) at 1.5% interest rate for 20 years. Funds are expected to be available in August 2005. Return portion of SRF loan principal financed by other sources with lower debt service and rate impacts, if applicable.

- d. Submit CDBG general-purpose grant application for \$1 million in November 2005. A maximum of only \$150,000 to \$250,000 is expected to be awarded to individual applicants due to limited available funds. Use funds for design purposes. Funds are expected to be available in Spring 2006.
 - e. Submit USDA-RD water and waste disposal loan and grant application for the entire Phase 1 contract amount for a 4.5%, 40-year loan and grant in Spring 2008. Funds are expected to be available in late Summer 2008. Return portion of loan principal financed by other sources with lower debt service and rate impacts, if applicable. This application will include funding for both design and construction. Funds are not available until construction is initiated.
3. The recommended approach for funding the construction of Phase I of the project includes the following tasks:
- a. Submit PWTF construction loan application in May 2006 for \$10 million. Amount of available matching funds will determine the 20-year loan interest rate. Funds are expected to be available in June 2007.
 - b. Submit SRF/CCWF application in November 2006. Funds are expected to be available in August 2007.
 - c. Submit CDBG general-purpose grant application in November 2006. A maximum of only \$150,000 to \$250,000 is expected to be awarded to individual applicants due to limited available funds. Funds are expected to be available in 2007.
 - d. Submit USDA-RD water and waste disposal grant and loan application for the entire Phase 1 contract amount for a 4.5%, 40-year loan and grant in Spring 2008. Funds are expected to be available in late Summer 2008. Return portion of loan principal financed by other sources with lower debt service and rate impacts, if applicable. This application will include funding for both design and construction.

The recommended schedule for securing funds for completion of the various project tasks is summarized in Table 6-14, Estimated City of Airway Heights New Wastewater Treatment, Collection, and Reclamation System CIP Funding Requirements (2005 – 2012). This schedule is based on completion of the project in two phases and includes design and construction of the reclaimed water distribution system in Phase 1. The anticipated implementation timeline is provided in Figure 7-1.

Table 6-14. Estimated City of Airway Heights New Wastewater Treatment, Collection, and Reclamation System CIP Funding Schedule (2005 – 2012)									
		Phase 1						Phase 2	
Description of Task	Year→	2005	2006	2007	2008	2009	2010	2011	2012
Land Acquisition		\$310,000							
Additional Planning/Hydrogeologic Study		\$100,000							
Pre-Design/Design Engineering ^{1,3}		\$2,440,070						\$480,881	
Construction/Construction Engineering ^{2,3}				\$28,025,169					\$6,935,566
Total Annual Funding Amount (\$)⁴		\$2,850,070		\$28,025,169				\$480,881	\$6,935,566

1. Phase 1 design occurs from early 2005 through early 2007.
2. Phase 1 construction occurs from Fall 2008 through Fall 2010.
3. These costs have been escalated to the estimated year the funds should be available based on an annual general cost inflation rate of 3%.
4. The table indicates the amount and timing needed to maintain Phase 1 startup date of late 2010.