

PRESCOTT VALLEY BIOSOLIDS HANDLING OPTIONS / FINANCIAL EVALUATION

QUICK DRY FILTER BED/CURING

costs	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10
disposal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
polymer	\$7,825	\$7,982	\$8,141	\$8,304	\$8,470	\$8,639	\$8,812	\$8,988	\$9,168	\$9,352
labor	\$10,268	\$10,679	\$11,106	\$11,550	\$12,012	\$12,493	\$12,992	\$13,512	\$14,052	\$14,615
power	\$1,000	\$1,020	\$1,040	\$1,061	\$1,082	\$1,104	\$1,126	\$1,149	\$1,172	\$1,195
capital costs	\$46,208	\$46,208	\$46,208	\$46,208	\$46,208	\$46,208	\$46,208	\$46,208	\$46,208	\$46,208
maintenance	\$2,500	\$2,550	\$2,601	\$2,653	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988
yearly total	\$67,801	\$68,438	\$69,096	\$69,776	\$70,478	\$71,204	\$71,954	\$72,729	\$73,529	\$74,357
total 10 year cost = \$709,362		o&m 10 year cost= \$247,284			capital 10 year cost= \$462,078					

capital cost @ 6% for 20 years (assume \$530,000)
 yearly fixed payment = \$46,207.82

QUICK DRY FILTER BEDS/SOLIDS HOLDING/PIMA GRO

costs	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10
disposal	\$56,433	\$57,562	\$58,713	\$59,887	\$61,085	\$62,307	\$63,553	\$64,824	\$66,120	\$67,443
chemicals	\$7,825	\$7,982	\$8,141	\$8,304	\$8,470	\$8,639	\$8,812	\$8,988	\$9,168	\$9,352
labor	\$8,636	\$8,981	\$9,341	\$9,714	\$10,103	\$10,507	\$10,927	\$11,364	\$11,819	\$12,292
power	\$1,000	\$1,020	\$1,040	\$1,061	\$1,082	\$1,104	\$1,126	\$1,149	\$1,172	\$1,195
capital costs	\$39,669	\$39,669	\$39,669	\$39,669	\$39,669	\$39,669	\$39,669	\$39,669	\$39,669	\$39,669
maintenance	\$3,000	\$3,060	\$3,121	\$3,184	\$3,247	\$3,312	\$3,378	\$3,446	\$3,515	\$3,585
yearly total	\$116,563	\$118,274	\$120,025	\$121,819	\$123,657	\$125,538	\$127,466	\$129,440	\$131,463	\$133,535
total 10 year cost = \$1,247,781		o&m 10 year cost= \$851,091			capital 10 year cost= \$396,690					

capital cost @ 6% for 20 years (assume \$455,000)
 yearly fixed payment = \$39,668.97

PRESCOTT VALLEY BIOSOLIDS HANDLING OPTIONS / FINANCIAL EVALUATION

QUICK DRY FILTER BEDS/AUTOTHERMOPHILIC AEROBIC DIGESTION

costs	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10
disposal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
chemicals	\$33,865	\$34,542	\$35,233	\$35,938	\$36,657	\$37,390	\$38,137	\$38,900	\$39,678	\$40,472
labor	\$35,870	\$37,305	\$38,797	\$40,349	\$41,963	\$43,641	\$45,387	\$47,202	\$49,091	\$51,054
power	\$50,000	\$51,000	\$52,020	\$53,060	\$54,122	\$55,204	\$56,308	\$57,434	\$58,583	\$59,755
capital costs	\$116,535	\$116,535	\$116,535	\$116,535	\$116,535	\$116,535	\$116,535	\$116,535	\$116,535	\$116,535
maintenance	\$4,500	\$4,590	\$4,682	\$4,775	\$4,871	\$4,968	\$5,068	\$5,169	\$5,272	\$5,378
yearly total	\$240,770	\$243,972	\$247,267	\$250,658	\$254,147	\$257,739	\$261,436	\$265,241	\$269,159	\$276,194
total 10 year cost = \$2,563,584		o&m 10 year cost= \$1,398,231			capital 10 year cost= \$1,165,352					

capital cost @ 6% for 20 years (assume \$1,336,650)
 yearly fixed payment = \$116,535.24

BELT FILTER PRESS/SOLIDS HOLDING/PIMA GRO

costs	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10
disposal	\$169,260	\$172,645	\$176,098	\$179,620	\$183,212	\$186,877	\$190,614	\$194,427	\$198,315	\$202,281
chemicals	\$26,040	\$26,561	\$27,092	\$27,634	\$28,187	\$28,750	\$29,325	\$29,912	\$30,510	\$31,120
labor	\$59,594	\$61,978	\$64,457	\$67,035	\$69,717	\$72,505	\$75,405	\$78,422	\$81,559	\$84,821
power	\$18,500	\$18,870	\$19,247	\$19,632	\$20,025	\$20,425	\$20,834	\$21,251	\$21,676	\$22,109
capital costs	\$98,083	\$98,083	\$98,083	\$98,083	\$98,083	\$98,083	\$98,083	\$98,083	\$98,083	\$98,083
maintenance	\$5,500	\$5,610	\$5,722	\$5,837	\$5,953	\$6,072	\$6,194	\$6,318	\$6,444	\$6,573
yearly total	\$376,977	\$383,746	\$390,699	\$397,841	\$405,177	\$412,713	\$420,455	\$428,411	\$436,586	\$444,987
total 10 year cost = \$4,097,592		o&m 10 year cost= \$3,116,766			capital 10 year cost= \$980,826					

capital cost @ 6% for 20 years (assume \$1,125,000)
 yearly fixed payment = \$98,082.63

PRESCOTT VALLEY BIOSOLIDS HANDLING OPTIONS / FINANCIAL EVALUATION

BELT FILTER PRESS/AGITATED AIR DRYING AND CURING

costs	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10
disposal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
chemicals	\$26,040	\$26,561	\$27,092	\$27,634	\$28,187	\$28,750	\$29,325	\$29,912	\$30,510	\$31,120
labor	\$79,178	\$82,345	\$85,639	\$89,064	\$92,627	\$96,332	\$100,185	\$104,193	\$108,361	\$112,695
power	\$18,500	\$18,870	\$19,247	\$19,632	\$20,025	\$20,425	\$20,834	\$21,251	\$21,676	\$22,109
capital costs	\$132,956	\$132,956	\$132,956	\$132,956	\$132,956	\$132,956	\$132,956	\$132,956	\$132,956	\$132,956
maintenance	\$5,000	\$5,100	\$5,202	\$5,306	\$5,412	\$5,520	\$5,631	\$5,743	\$5,858	\$5,975
yearly total	\$261,674	\$265,832	\$270,137	\$274,593	\$279,207	\$283,985	\$288,932	\$294,055	\$299,361	\$304,856
total 10 year cost = \$2,822,633		o&m 10 year cost= \$1,493,069			capital 10 year cost= \$1,329,564					

capital cost @ 6% for 20 years (assume \$1,525,000)
 yearly fixed payment = \$132,956.45

BELT FILTER PRESS/AUTOTHERMOPHILIC AEROBIC DIGESTION

costs	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10
disposal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
chemicals	\$39,060	\$39,841	\$40,638	\$41,451	\$42,280	\$43,125	\$43,988	\$44,868	\$45,765	\$46,680
labor	\$56,960	\$59,238	\$61,608	\$64,072	\$66,635	\$69,301	\$72,073	\$74,955	\$77,954	\$81,072
power	\$58,750	\$59,925	\$61,124	\$62,346	\$63,593	\$64,865	\$66,162	\$67,485	\$68,835	\$70,212
capital costs	\$161,030	\$161,030	\$161,030	\$161,030	\$161,030	\$161,030	\$161,030	\$161,030	\$161,030	\$161,030
maintenance	\$5,500	\$5,610	\$5,722	\$5,837	\$5,953	\$6,072	\$6,194	\$6,318	\$6,444	\$6,573
yearly total	\$321,300	\$325,644	\$330,122	\$334,736	\$339,491	\$344,393	\$349,446	\$354,656	\$360,028	\$365,567
total 10 year cost = \$3,425,382		o&m 10 year cost= \$1,815,084			capital 10 year cost= \$1,610,299					

capital cost @ 6% for 20 years (assume \$1,847,000)
 yearly fixed payment = \$161,029.88

PRESCOTT VALLEY BIOSOLIDS HANDLING OPTIONS / FINANCIAL EVALUATION

BER PROCESS

costs	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10
disposal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
chemicals	\$56,040	\$57,161	\$58,304	\$59,470	\$60,659	\$61,873	\$63,110	\$64,372	\$65,660	\$66,973
labor	\$56,538	\$58,800	\$61,152	\$63,598	\$66,141	\$68,787	\$71,539	\$74,400	\$77,376	\$80,471
power & gas	\$80,000	\$81,600	\$83,232	\$84,897	\$86,595	\$88,326	\$90,093	\$91,895	\$93,733	\$95,607
capital costs	\$220,926	\$220,926	\$220,926	\$220,926	\$220,926	\$220,926	\$220,926	\$220,926	\$220,926	\$220,926
maintenance	\$10,000	\$10,200	\$10,404	\$10,612	\$10,824	\$11,041	\$11,262	\$11,487	\$11,717	\$11,951
yearly total	\$423,504	\$428,686	\$434,017	\$439,502	\$445,146	\$450,953	\$456,929	\$463,080	\$469,411	\$475,928
total 10 year cost = \$4,487,155	o&m 10 year cost= \$2,277,899		capital 10 year cost= \$2,209,257							

capital cost @ 6% for 20 years (assume \$2,534,000)
 yearly fixed payment = \$220,925.67

AEROBIC DIGESTION/LAND APPLICATION

costs	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10
disposal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
property lease	\$25,000	\$25,500	\$26,010	\$26,530	\$27,061	\$27,602	\$28,154	\$28,717	\$29,291	\$29,877
labor	\$8,500	\$8,840	\$9,194	\$9,561	\$9,944	\$10,342	\$10,755	\$11,185	\$11,633	\$12,098
power	\$30,000	\$30,600	\$31,212	\$31,836	\$32,473	\$33,122	\$33,785	\$34,461	\$35,150	\$35,853
capital costs	\$87,185	\$87,185	\$87,185	\$87,185	\$87,185	\$87,185	\$87,185	\$87,185	\$87,185	\$87,185
maintenance	\$4,500	\$4,590	\$4,682	\$4,775	\$4,871	\$4,968	\$5,068	\$5,169	\$5,272	\$5,378
yearly total	\$155,185	\$156,715	\$158,282	\$159,888	\$161,533	\$163,219	\$164,946	\$166,717	\$168,531	\$170,391
total 10 year cost = \$1,625,406	o&m 10 year cost= \$753,560		capital 10 year cost= \$871,846							

capital cost @ 6% for 20 years (assume \$1,000,000)
 yearly fixed payment = \$87,184.56

PRESCOTT VALLEY BIOSOLIDS HANDLING OPTIONS / FINANCIAL EVALUATION

SUMMARY OF BIOSOLIDS OPTIONS FOR PRESCOTT VALLEY WWTP

OPTION	CAPITAL 10 YR COST	RANKING	O&M 10 YR COST	RANKING	TOTAL 10 YR COST	RANKING
QUICK DRY FBs/CURING	\$462,078	2	\$247,284	1	\$709,362	1
QUICK DRY FBs/HOLD/PIMA	\$396,690	1	\$851,091	3	\$1,247,781	2
QUICK DRY FBs/ATAD	\$1,165,352	5	\$1,398,231	4	\$2,563,584	4
BFPs/HOLD/PIMA	\$980,826	4	\$3,116,766	8	\$4,097,592	7
BFPs/AADC	\$1,329,564	6	\$1,493,069	5	\$2,822,633	5
BFPs/ATAD	\$1,610,299	7	\$1,815,084	6	\$3,425,382	6
BER	\$2,209,257	8	\$2,277,899	7	\$4,487,155	8
AEROBIC DIG./LAND APP.	\$871,846	3	\$753,560	2	\$1,625,406	3

SUMMARY OF ASSUMED CAPITAL COSTS

UNIT PROCESS	CAPTIAL \$
QUICK DRY FILTER BEDS (QDFB)	\$280,000
BELT FILTER PRESSES W/BUILDING (BFP)	\$600,000
CURING W/QDFB	\$125,000
AGITATED AIR DRYING AND CURING W/BFP	\$675,000
BIOSOLIDS HOLIDNG W/QDFB	\$75,000
BIOSOLIDS HOLIDNG W/BFP	\$275,000
AUTOTHERMOPHILIC AEROBIC DIGESTION	\$1,000,000
AEROBIC DIGESTION	\$500,000
BIOSOLIDS STORAGE	\$300,000
IRRIGATION EQUIPMENT	\$100,000
BIOSOLIDS ENRICHMENT AND RECYCLING	\$2,434,000
LAND COST	\$50,000 per acre

The above capital costs do not include mobilization, engineering, partial construction, and contingency allocations. These costs are based on vendor quotations, where possible