

Inputs

Interest rate 2%
Present Worth Factor 27.3555 Calculations assume a 40 Year Design Life

Sludge per year (gal) 4,643,542.00 Based on 2018 MROs
Sludge per year (lbs) 39,501,683.09
Dry Solids/year 790,033.66 Based on Lab testing of sludge
Dry Tons/year 395.02
Cost \$/wet ton landfill \$25.91
Polymer Cost \$/lb \$2.00
Electricity Cost \$/Kw \$0.0764
Labor Cost/Hr \$25.00 Assumed w/o overhead

Manufacturer	Prime	Fournier	Belt Press - Rehab	Belt Press - New
Capital Cost	\$876,000.00	\$675,000.00	\$185,000.00	\$382,500.00
Polymer Use (#/dton)	30	40	30	30
% Solids	16%	19.5%	16%	16%
HP	8.5	30	5	5
Feed Rate gpm	140	114.4	50	50
Hourly Run Time/week	11	13	30	30
Kwh/year	3504	15134	5771	5771
Wet Tons/year	2469	2026	2469	2469

Annual Cost Breakdown

Cake Disposal	\$63,979.98	\$52,496.40	\$63,979.98	\$63,979.98
Electricity Cost	\$267.70	\$1,156.25	\$440.92	\$440.92
Polymer	\$23,701.01	\$31,601.35	\$23,701.01	\$23,701.01
Labor	\$13,820.07	\$16,912.67	\$38,696.18	\$38,696.18
Annual Operating Cost	\$101,768.76	\$102,166.66	\$126,818.09	\$126,818.09

Life Cycle Present Worth

Present Worth Capital Cost	\$876,000.00	\$675,000.00	\$185,000.00	\$382,500.00
Present Worth Operating Cost	\$2,783,935.25	\$2,794,820.02	\$3,469,172.33	\$3,469,172.33

Total Present Worth Cost	\$3,659,935.25	\$3,469,820.02	\$3,654,172.33	\$3,851,672.33
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Intangibles

Ease of Operation	High	High	Low	Low
Environment while in operation	High	High	Low	Low

Notes

Capital cost for new equipment includes a 50% adder to cover ancillary costs to install selected technology. For example, all equipment besides a Belt Press rehab will require the masonry knock out wall to be wrecked out to get equipment into the room. Sludge Feed pump upgrades, piping, structural modifications, electrical modifications, etc. Additionally, if the existing Belt Press was replaced it could potentially be sold to offset some of the Capital Costs. Finally, there has been some anecdotal evidence that the corrosive environment created by the Belt Press has resulted in a number of electrical equipment failures that needed replaced. If the Belt Press option was pursued then we would likely recommend relocating the electrical equipment which would result in additional capital cost.