

four the treatment cost per thousand gallons at design population was determined based upon the quoted rates from the cities of Fargo and West Fargo.

Detailed Estimates for construction, non-construction costs used in this analysis are provided in Appendix G. Additionally, a detailed net present worth analysis for each alternative can also be found in Appendix G.

<b>Table 9.1</b>	
<b>PRELIMINARY ENGINEERS OPINION OF COSTS – CONSTRUCTION/NONCONSTRUCTION</b>	
Alternative	Total Estimated Project Cost
Alternative 1 – Stabilization Pond Expansion	\$3,205,000
Alternative 2 – Stabilization Pond Expansion and Relocation	\$7,050,000
Alternative 3 – Fargo Connection	\$3,820,000
Alternative 4 – West Fargo Connection	\$4,330,000

<b>Table 9.2</b>	
<b>ENGINEERS OPINION OF PROBABLE COSTS – OM&amp;R</b>	
Alternative	Total Estimated Project Cost
Alternative 1 – Stabilization pond Expansion	\$15,000
Alternative 2 – Stabilization pond Expansion and Relocation	\$18,000
Alternative 3 – Fargo Connection	\$15,715
Alternative 4 – West Fargo Connection	\$16,200

<b>Table 9.3</b>	
<b>ENGINEERS OPINION OF PROBABLE COSTS – NET PRESENT WORTH</b>	
Alternative	Total Estimated Project Cost
Alternative 1 – Stabilization Pond Expansion	\$2,454,596.88
Alternative 2 – Stabilization Pond Expansion an Relocation	\$4,392,885.61
Alternative 3 – Fargo Connection	\$5,919,565.31
Alternative 4 – West Fargo Connection	\$5,144,351.33

#### Other Considerations

While the above tables show Alternative 1 having the lowest Net Present Worth, some additional factors are not presented. Should the city grow faster than what is projected in this report the city would be forced to complete another project to add additional treatment capacity to their treatment systems for Alternative 1 and 2. Additionally, the city has expressed the desire to remove the stabilization ponds out of the city. Alternative 1 would contradict the city's wishes.

Furthermore, the net present worth analysis does not take into account any increase in treatment rates that may be renegotiated over the years for Alternatives 3 and 4.

Lastly, the burden that would be placed upon the citizens must be taken into account. Table 9.4 shows the proposed minimum sewer rates per Equivalent Dwelling Unit (EDU) to pay for the entire project without any supplementary funding. The number of EDU's was determined through analysis of the past year water usage. These calculations can be found in Appendix B. An interest rate of 2.00% was assumed for the rate calculations. Detailed calculations can be found in Appendix B.

<b>Table 9.4</b>		
<b>Proposed Average Sewer Rates per Month</b>		
<b>Alternative</b>	<b>20 Year Loan</b>	<b>30 Year Loan</b>
Alternative 1 – Stabilization Pond Expansion	\$50.61	\$37.77
Alternative 2 – Stabilization Pond Expansion an Relocation	\$108.29	\$80.04
Alternative 3 – Fargo Connection	\$81.97	\$66.66
Alternative 4 – West Fargo Connection	\$82.60	\$65.25

Table 9.4 shows that Alternative 3 has a lower monthly sewer rate than Alternative 4. However, as the number of users continues to grow so will the treatment costs for each alternative. Eventually, the cost per EDU for Alternative 3 will exceed the cost per EDU for Alternative 4. This is evident in Table 9.3. The net present worth shows that over a lifespan of 20 years Alternative 3 will cost more than Alternative 4. This is due in large part to the difference in treatment cost charged by all parties involved.