

Appendix I

Mequon Lift Station Maintenance Basis

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I spoke with City of Mequon Wastewater Superintendent Wayne Bernhardt on Thursday morning January 7, 2016 to determine the City's efforts to maintain their lift stations. The following information was used to determine O&M costs for the 50-year life cycle cost analysis.

A two-man crew visits some of the City's 23 lift station on Mondays, Wednesdays and Fridays throughout the year to inspect the lift stations. They typically spend 15 to 30 minutes per site. He estimated 156 man-hours at \$100/man-hour for a total of \$15,600 annually.

The crews also visit each pump station twice per year to grease the pumps and motors for total labor of 0.5 man-hours per trip. At two trips per year and \$100/man-hour, the total is \$100 annually.

Two other activities are performed annually:

- Disassemble pipe and filter to grease the filter seal: 2 man-crew for 3 hours for a total of 6 man-hours at \$100/man-hour = \$600 annually.
- Clean wet well: 4 man crew for 1 hour at \$100/man-hour is \$400 annually.

The total labor expended at each lift station is \$16,700 per site. Assuming travel time of 15 minutes to the site, we estimate additional labor of 80 man-hours as follows:

- 15-minute trip with 2-man crew to inspect lift stations three times per week = 1.5 man-hours/week of 78 man-hours annually
- Trips to lubricate pumps and motors can be performed concurrently with inspections
- Specialized crews to disassemble pipe/filter for greasing filter seal and cleaning wet-well amount to 15 minutes for a two-man crew and a four-man crew which is 1.5 man-hours (say 2 man-hours).
- Total of 80 man-hours at \$100/man-hour amounts to \$8,000 annually

Further assume \$2,000 materials per year for oil, grease, disposable materials, etc.

Grand total is **\$26,700** annually. This is the annual maintenance cost that will be used for the East Growth Area Lift Station.