Wastewater Plant Energy Assessment

(SAMPLE)

Completed by: ABC Engineering

Customer Contact: John Doe

Date: XX/XX/XXXX

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# Executive Summary

*The executive summary should include a brief description of the facility, history, and scope of the energy audit as well as the time period when the energy audit occurred. This section should include a list of information used to develop the audit. Additionally, this section should include a summary of any energy efficiency measures and a summary of the energy benchmarks.*

# Introduction and Background Information

*In this section describe the site, location, treatment processes, design, average and peak flows, as well as the local population that relies on the facility. This section could include any problems the facility has been experiencing – not meeting limits, nearing hydraulic or organic capacity, poor score on CMAR or poor ranking in the energy data from the CMAR as examples.*

# Existing Infrastructure and Processes

*This section should include an overall plant performance summary, as well as a list of all plant equipment indicating which process uses the equipment, how often it operates, and how much energy the equipment consumes during different flow conditions. Also, provide information on the buildings such as building occupancy, construction type, lighting systems, HVAC systems, security systems, and include a site map and or relevant photos. Include a list of equipment that is continually causing problems in the plant.*

# Energy Use Analysis

*Show the yearly energy usage of the facility including total kWh and peak demand. Compare the facilities energy use to 2017 CMAR data collected by DNR (appendix 1)*

# Audit Findings

*\*Include a thorough description of each measure’s existing equipment, proposed equipment, the energy savings and utility bill savings expected, capital investment, return on investment as well as the method for verifying if the recommendation was successful. Include pictures whenever possible.*

|  |  |  |
| --- | --- | --- |
| Prioritized Recommendations | Estimated Cost Savings | Simple Payback |
| 1. *Modify Dissolved Oxygen level in Aeration tank* |  |  |
| 1. *Clean UV Lamp sleeves to improve transfer efficiency* |  |  |
| 1. *Install Fine bubble aeration* |  |  |
| 1. *Upgrade blower technology* |  |  |

Table 1: Prioritized Recommendations

## 

## Low Cost/No Cost Recommendations (examples)

1. *Modify Dissolved Oxygen level in Aeration tank*

Existing state:

Proposed state: *Include equipment interactions during installation*

Savings & Investment:

Measurement & Verification Plan:

1. *Clean UV Lamp sleeves to improve transfer efficiency*

Existing state:

Proposed state:

Savings & Investment:

Measurement & Verification Plan:

*Continue on with complete list of low cost/no cost ECMs*

## 

## Capital Improvement Recommendations

Along with \* above – please provide detailed engineering calculations along with assumptions clearly stated.

1. *Install fine bubble aeration*

Existing state:

Proposed state:

Savings & Investment:

Measurement & Verification Plan:

1. *Upgrade Blower Technology*

Existing state:

Proposed state:

Savings & Investment:

Measurement & Verification Plan:

# Appendix 1: CMAR Data

