Kirie WRP - Goals and Objectives for 2018 (continued from 2017)

Goal – Installation of a Pilot Fine Screen to Improve the Quality of Activated Sludge (and Waste Activated Sludge)

Objective
Improve the quality of activated and waste activated sludge.

Description
While studying the process parameters in the pilot Bio-P tanks at Kirie (Tanks 5 and 6), a significant amount of rags and stringy material has been observed in the return activated sludge (and waste activated sludge). It is speculated that this material may be resulting from an inefficient fine screen operation. The fine screen systems at Kirie are original to the plant (1980) and show a significant amount of wear and aging.

Measurability
Operate one or two existing fine screens for a few months and establish a baseline of screening material discharging to the dumpsters. Operate the pilot fine screen along with an existing fine screen or by itself for a few months and calculate the amount of material discharging to the dumpsters. Compare activated sludge characteristics when new fine screen is in and out of service.

Affect to Biosolids Production
Improve the quality of WAS by removing the inorganic stringy material that is sent to Egan for processing.

Relevant EMS Outcomes
Environmental Performance, Quality Management Practices.

Action Plans
Initiate a pilot test to install a new fine screen (smaller opening (from 5/8” to 3/16”) with improved raking mechanism) - $110,000.

a. Work with Mechanical Treatment M&O to furnish and deliver a pilot fine screen, Contract 16-701-21.
c. Utilize in-house trades to remove existing Kirie Fine Screen Number 4 and install the new pilot fine screen (Kusters Water) (2nd or 3rd Quarter 2017)
d. Compare quantity of screenings between new and existing fine screen systems (operate during different flow conditions) – 4th Quarter 2017 into 2018.
   1. Operate one or two existing fine screens for a few months and establish a baseline of screening material discharging to the dumpsters.
   2. Operate the pilot fine screen along with an existing fine screen or by itself for a few months and calculate the amount of material discharging to the dumpsters.
e. Compare activated sludge characteristics when new fine screen is in and out of service.
Tracking Progress Towards Implementation
Section 722 Principal Mechanical Engineer, Section 722 Associate Mechanical Engineer, Section 783 Principal Engineer

Responsible Person(s)
Section 722 Principal Mechanical Engineer, Section 722 Associate Mechanical Engineer, Section 783 Principal Engineer

Funds/Resources
M&O funded and administered Contract.

Target Date
June 2018.

Table 1 – Implementation Milestones

<table>
<thead>
<tr>
<th>Description</th>
<th>11/1/16</th>
<th>10/1/17</th>
<th>6/1/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receive Fine Screen</td>
<td></td>
<td>(12/21/16)</td>
<td></td>
</tr>
<tr>
<td>Install Fine Screen</td>
<td></td>
<td></td>
<td>(9/8/17)</td>
</tr>
<tr>
<td>Pilot Test Fine Screen</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>