

The current facility is aging and many parts are 50 plus years old and in need of rehab, repair, or replacement. This includes not only the plant structural components, but also aging equipment such as pumps, motors, mixers, etc.

1b.) Much of our O&M costs are associated with maintaining, fixing, or finding a temporary solution for outdated, failing equipment. A lot of the equipment has exceeded its useful life expectancy and needs to be replaced. Below is a list of plant equipment that needs to be replaced or addressed during a future upgrade-

- 1) Step Screen – worn parts, vertical steel lamina bent
- 2) Grit Removal System – worn motors/corroded steel/broken auger
- 3) Primary Clarifiers – aging concrete, outdated gear boxes, chains, sprockets, flights, replace worn out sludge plunger pumps, piping, and valves
- 4) Grease Pit – non-operational isolation valves, can't pump out - no longer useful
- 5) Anoxic Tanks – concrete in fairly good shape, submersible mixers need replacing
- 6) Aeration Basins – Deteriorated concrete, replace all airlines and diffusers, replace blowers, replace buried tank piping and valves
- 7) Final Clarifiers – total replacement – very deteriorated concrete, outdated gear boxes, drive assemblies, possible alignment issues within tank / collection mechanism, needs new piping, new valves, new return pumps
- 8) Scum Pit – total replacement of scum pit pumps, piping, and valves
- 9) UV System – installed in 1994. Obsolete and inefficient. Needs total replacement
- 10) Outfall Structure – deteriorated concrete, needs total replacement
- 11) Flood Wall – structurally ok, unsure whether the DNR will approve of flood wall extension and/or flood pump, due to the designated flood plain
- 12) Anaerobic Digesters – deteriorated concrete, total replacement of fixed cover and floating cover, replace piping and valves, replace digester gas mixing system and gas handling system, replace digester mixing pump and associated piping, replace or upgrade boiler/heating system
- 13) Sludge Storage Tank – Good condition, replace some valving/piping, clean and inspect tank
- 14) HVAC – replace all HVAC handling equipment for headworks building, control building, blower building, and gravity belt thickener room. A lot of O&M associated with the upkeep of the current equipment
- 15) Replace roofing on existing buildings due to leaks
- 16) Replace water reuse system throughout the plant – undersized, low water pressure

1c.) The significant O&M costs associated with maintaining some of existing equipment, is time consuming and difficult to order replacement parts, due to their age. A lot of parts are special order and need to be manufactured by special order, rather than “on the shelf” type of parts. This significantly increases the downtime, which can affect treatment performance, and increase discharge fees (NR101) we pay to the DNR each year for discharging to the Rib River. Below is a list of equipment that is obsolete or difficult to get parts for;

- 1) Huber Step Screen – outdated, can still get parts, but are very expensive
- 2) Pista Grit System – outdated, although parts are still available for now
- 3) Primary Clarifiers – gear box/assembly outdated, special order parts from Winsmith (up to 6-8 weeks for delivery)
- 4) Aeration Blowers – outdated and inefficient, can only be rebuilt so many times
- 5) Final Clarifiers – gear box/assembly outdated, special order parts form Winsmith (up to 6-8 weeks for delivery)
- 6) Scum Pit – pumps so old-need to replace with new pumps
- 7) Samplers – outdated, can order parts but very expensive, need replacement.

Submitted by Ken Bloom May of 2020