

Blower 4 Check Valve Replacement

Project Number: 2021-27

Problem or Opportunity: The check valve is broken on the discharge side of blower #4, unable to completely close, allowing air to pass through. When the NextTurbo blowers are on line, and the Spenser blowers #3 & #4 are offline, air flow passing through will cause blower #4 to spin backward.

Condition Score: 5

Criticality Score: 5

Recommended Solution: Replacement of worn component which cannot be repaired

Measurable Benefits: Reliable blower for backup

Basis of Recommendation: Age of existing equipment

Assumptions/Risks: As long as air passes through the broken check valve, blower #4 spins backward resulting in potential blower and bearing damage, we'll have a constant risk of activated sludge process and plant upset, and higher electrical cost.

Primary Driver: Protection of activated sludge process

Cost Estimate: \$13,000

Method of Delivery: Purchase of replacement equipment, Veolia/subcontractor installation

Ayala Lift Station Gate Repair / Replacement

Project Number: 2122-01

Problem or Opportunity:

Condition Score: 5

Criticality Score: 5

Recommended Solution: Replacement of gate

Measurable Benefits: Ability to isolate secondary flows

Basis of Recommendation: Age of existing equipment

Assumptions/Risks: Inability to isolate Lift Station

Primary Driver: ability to isolate Lift Station for inspection and service

Cost Estimate: \$40,000

Method of Delivery: Purchase of replacement equipment, Veolia/subcontractor installation

Mainline Sewer Line Repairs

Project Number: WW2122-02

Problem or Opportunity: Several sanitary pipes currently have documented defects such as offsets and intrusions. These segments have an increased risk for SSO events. The entire main sewer line needs to be replaced; this specific problem is to address any Emergency needs.

Assets Included: N/A

Years Remaining Life: Most are 20 years past lifespan

Condition Score: 5

Criticality Score: 5

Recommended Solution: The best course of action is a complete mainline replacement under Capital Program. The pipe requires excavation and replacement of the segment.

Measurable Benefits: Restoration of operational capacity, reliability and extended asset life

Basis of Recommendation: This segment is on a monthly PM and inspections are indicating that monthly pipe cleaning is mitigating risk, but pipe is rapidly deteriorating

Assumptions / Risks: Lack of replacement of this pipe will result in an increased risk of SSO

Primary Driver: Prevention of SSO events and prevention of sewer line collapse

Cost Estimate: \$120,000

Method of Delivery: Veolia project management and inspection with subcontracted installation

Plant 5 Uninterruptible Power Supply (UPS) Unit Replacement (Plant 5 Equipment)

Project Number: 2122-04

Problem or Opportunity: There is no reliable backup power for the SCADA system. Loss of SCADA would mean the on call operator will not be able to see plant processes in addition to not being able to make any needed process changes.

Condition Score: 5

Criticality Score: 5

Recommended Solution: Replacement of worn components that cannot be repaired

Measurable Benefits: Reliable backup power for SCADA

Basis of Recommendation: Age of existing equipment

Assumptions/Risks: As a result, the on call operator would have to physically drive into the plant for monitoring and adjustments in the event of power failure. Without reliable backup power, the plant will also be subject to potentially falling out of compliance.

Primary Driver: Remain in Compliance

Cost Estimate: \$22,500

Method of Delivery: Purchase of replacement equipment, Veolia/subcontractor installation

Urgent Mainline Repairs as Identified through CCTV

Project Number: WW2122-05

Problem or Opportunity: Sanitary sewer lines that are undersized and/or deteriorated must be replaced to prevent infiltration and exfiltration; resulting in accelerated rates of misalignment that could lead to SSOs. This is a placeholder for Urgent Sanitary Sewer line Repairs as CCTV continues through the city.

Assets Included: Multiple/Various as identified by CCTV inspection

Condition Score: 4

Criticality Score: 5

Recommended Solution: The aged main project would identify segments that require repairs or replacement work. The Baseline Facility Report identifies the main lines that are in most critical need of total replacement. As the Baseline Facility Report is updated each year, and CCTV data is collected and analyzed; more detailed lists will be released yearly, or upon request.

Measurable Benefits: The reduction of infiltration and exfiltration, misalignment of sewer line and ultimately the mitigation of SSOs

Basis of Recommendation: This OR&R project is for the unplanned collection system failures as identified as we continue to CCTV the city. Core benefits include an increase in the collection system's reliability due to improved structural integrity of the pipe.

Assumptions / Risks: Normal construction risks associated with unknown underground assets. This is only for urgent segment replacement only as opposed to Capital Improvement, which is entire pipe segment replacement, fitting to fitting.

Primary Driver: Increased reliability, prevention of unplanned failures and overflows as identified during CCTV inspections of city pipes.

Cost Estimate: \$50,000

Method of Delivery: Inspections in house and repairs performed by contractor through bid process

Plant 5 (existing) Primary Clarifier Cleaning

Project Number: 2122-06

Problem or Opportunity: The sole Plant 5 Primary Clarifier removes solids (sludge) from the wastewater stream. Over time, debris clogs the sludge removal piping and other clarifier components rendering removal unreliable. Due to design flow limitations, draining and cleaning of this clarifier has not been possible. Within the S1 project scope, a second clarifier will be provided. This will provide an opportunity to drain and clean the existing Primary Clarifier

Assets Included: OWAM ID 773

Condition Score: 3

Criticality Score: 5

Recommended Solution: Utilization of a qualified outside tank cleaning subcontractor

Measurable Benefits: Reliable removal of primary sludge solids

Basis of Recommendation: Instances of clogged sludge removal piping and accumulation of debris on clarifier working surfaces have steadily increased in frequency

Assumptions/Risks: Failure to thoroughly clean and inspect the existing primary clarifier will result in unreliable solids removal along with potential damage to the clarifier mechanism

Primary Driver: Increased clarifier solids removal reliability. Reduced maintenance

Cost Estimate: \$120,000

Method of Delivery: Veolia project management and inspection with subcontracted installation

Replacement of Aeration Basin Mixer

Project Number: WW2122-07

Problem or Opportunity: Aeration mixer failure rates have been increasing in frequency. Project is for purchase and installation of a new replacement mixer

Assets Included: OWAM ID 610

Condition Score: 3

Criticality Score: 5

Recommended Solution: Purchase and installation of a new mixer

Measurable Benefits: Consistent, reliable aeration system operation, reduction in potential for permit non-compliance

Basis of Recommendation: Failure rate of aeration mixers in Plant

Assumptions/Risks: Failure to replace a non-functional aeration system mixer can result in poor anoxic zone performance which risks permit non compliance

Primary Driver: Increased process reliability, reduction in potential for permit non-compliance

Cost Estimate: \$15,000

Method of Delivery: Purchase of replacement mixer and installation by subcontractor/Veolia staff

Waste Activated Sludge Transfer (WAS) Variable Frequency Drive (VFD) #1 Replacement

Project Number: WW2122-08

Problem or Opportunity: Existing VFD unit has exceeded design life. Failure due to age is likely.

Assets Included:

Condition Score: 4

Criticality Score: 1

Recommended Solution: Replacement of existing VFDs

Measurable Benefits: Reliable operation of WAS system

Basis of Recommendation: Age of VFD unit

Assumptions/Risks: Failure of this unit would result in a sizable reduction in gpm of WAS to be wasted from the system. This would mean batch-wasting hours of operation would be increased, resulting in possible/probable overtime.

Primary Driver: Age of equipment

Cost Estimate: \$20,000

Method of Delivery: Purchased of replacement VFD, Veolia/subcontractor installation

Waste Activated Sludge (WAS) Variable Frequency Drive (VFD) #2 Replacement

Project Number: WW2122-09

Problem or Opportunity: Existing VFD unit has exceeded design life. Failure due to age is likely.

Assets Included:

Condition Score: 4

Criticality Score: 1

Recommended Solution: Replacement of existing VFDs

Measurable Benefits: Reliable operation of WAS system

Basis of Recommendation: Age of VFD unit

Assumptions/Risks: Failure of this unit would result in a sizable reduction in GPM of WAS to be wasted from the system. This would mean batch-wasting hours of operation would be increased, resulting in possible/probable overtime.

Primary Driver: Age of equipment

Cost Estimate: \$20,000

Method of Delivery: Purchased of replacement VFD, Veolia/subcontractor installation

Belt Filter Press #2 Control Panel Replacement

Project Number: WW2122-10

Problem or Opportunity: Existing Belt Filter Press control panel is mounted in an outdoor location which is subject to corrosive atmospheric conditions. Component failures have occurred. Visible corrosion and rust have been noted

Assets Included: OWAM ID 646

Condition Score: 3

Criticality Score: 2

Recommended Solution: Replacement of the existing control panel with new

Measurable Benefits: Reliable operation of belt filter press solids dewatering operation

Basis of Recommendation: Component failures within the existing control panel, visible rust and corrosion

Assumptions/Risks: Failure of the control panel would prevent digested solids dewatering and disposal

Primary Driver: Reliable solids dewatering operation

Cost Estimate: \$75,000

Method of Delivery: Manufacture of replacement control panel. Installation by Veolia/subcontractor