Plainville, MA

Department of Public Works

Water Distribution System

January 2020

PREVENTIVE MAINTENANCE PLAN

315 Norwood Park South
2nd Floor
Norwood, Massachusetts 02062
781.255.1982
www.BETA-Inc.com

Department of Public Works

Plainville, MA

Water Distribution System

PREVENTIVE MAINTENANCE PLAN

Prepared by: BETA GROUP, INC.
Prepared for: Town of Plainville, Department of Public Works

January 2020

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION AND BACKGROUND

The Plainville Water Department provides water to a population of approximately 8,800. The water distribution system is comprised of three groundwater sources: 3 wells and 2 satellite wells near Turnpike Lake, 1 well comprised of two satellite wells located near the DPW office, and 3 wells near Lake Mirimichi (currently being used for emergency backup until treatment can be supplied).

The Town of Plainville supplies water to approximately 8,800 people year-round through 58 miles of water mains ranging in size from 6-inches to 12-inches in diameter. There are two 1.5 million-gallon water storage tanks and five water pumping stations in town. The booster stations divide the town into five pressure zones, with both storage tanks located in the main pressure zone.

Water is supplied by groundwater wells located adjacent to Turnpike Lake and with water purchased from the Town of North Attleborough. Plainville also has groundwater wells located near Lake Mirimichi that are currently offline due to excessive manganese levels. Groundwater from North Attleborough is treated for iron, manganese, volatile organic compounds, and disinfected at the North Attleborough Water Treatment Plant before entering the Plainville distribution system. Groundwater from the Turnpike Lake wells is treated for iron and manganese, pH adjusted for corrosion control, and disinfected with chlorine and ultraviolet light at the Turnpike Lake Treatment Plant.

This Preventive Maintenance Plan focuses on increasing the level of water system maintenance to maximize the useful life of critical infrastructure. The Plan addresses the basic maintenance schedule and assignments while at the same time understanding the complexities of the system, the Town's current organizational structure and capabilities in performing the required maintenance on a consistent basis.

This plan is not all-inclusive and is to be used in conjunction with system operations plan and in compliance with state permits and other requirements. System maintenance manuals and manufacturer's instructions are to be kept on file for every piece of equipment. The basic routine maintenance program for each water system component is identified below, with daily, weekly, monthly, and annual routines listed, as applicable. Tables for specific sites are provided in Section 3 detailing the maintenance work by time period.

1.2 STUDY OBJECTIVES

The purpose of this preventive maintenance plan is outlined in the following objectives:

- Stabilize and reduce system maintenance costs
- Maximize the system reliability and predictability
- Enhance public health protection

The intent of the Preventive Maintenance Plan is to develop a strategic program to meet the Town's maintenance needs moving forward.

2.0 PROGRAM OVERVIEW

The Plainville operations staff must be state certified, cross trained and involved in the day to day operation of the wells, water treatment plant, and booster pump stations, in addition to being expected to perform as much system maintenance as possible in the time available. In the routine operation of the system, the operators will perform inspections, perform planned preventative maintenance and respond

to customer service calls and emergencies. The purpose of this Preventive Maintenance Plan is to identify all work to be completed and organize the work by time schedule.

2.1 CONTACT INFORMATION

The following Contact List is provided as a quick reference in case of emergency notifications related to the water distribution system:

Affiliation	Name	Title	Telephone #
Plainville Water Department	Dennis Morton	Operations Manager	508-294-3992
Plainville Water Department	Stephen Nunnery	Water & Sewer Operations Supervisor	508-740-9676
Plainville Water Department	Dennis Marcure	Secondary Treatment Operator	508-294-1760
Plainville Police Department	-	-	508-809-5555
Plainville Fire Department	-	-	508-695-5252
MassDEP Drinking Water Program	-	-	617-292-5770
MassDEP Drinking Water Program	24-Hour Emergency	-	888-304-1133

2.2 SITE VISITS AND INSPECTIONS

Site visits and Inspections of all facilities are completed on a regular basis. The use and completion of Inspection and data logging forms ensures a thorough inspection of all components at each site and provides documentation of any discoveries, problems or work service orders to be generated after the inspection is completed. The Town is in the process of moving to a GIS-based system for work orders, inspection logs, asset locations and customer complaints. They are hoping to have that operational by the end of 2020.

3.0 PREVENTIVE MAINTENANCE

System preventative maintenance duties will be assigned on a daily, weekly, monthly and annual basis by the Operations Manager, in accordance with the schedules in Section 3. Although it is very efficient to assign to employees tasks for which they have experience, are efficient and enjoy the work; it is also a solid practice to have employees cross over with more experienced staff and learn new skills and practices. Assignments will be made by the Operations Manager and his staff, and appropriate preventative maintenance documentation and reports completed, stored electronically and filed in paper by location.

3.1 General Preventive Maintenance

The following General Preventive Maintenance tasks will be done:

Daily Basis

- Check water meter readings and record water production
- Check chemical solution tanks and record amounts used
- Check and record water levels in storage tanks
- Inspect chemical feed pumps
- Inspect booster pump stations
- Inspect wells and record well pump running times and pump cycle starts
- Conduct security checks at windows, doors, locks, hatches, gates, fencing, alarms and security lighting
- Verify instrumentation and SCADA equipment is functioning as intended

Weekly Basis

- Clean buildings and grounds
- Ensure fire hydrants are accessible

Monthly Basis

- Take appropriate monthly water quality samples and record
- Record static and pumping levels at each active well
- Inspect well heads
- Confirm submittal of appropriate monthly reports

Annual Basis – January - March

- Inspect, overhaul and calibrate chemical feed pumps, feed lines and solution tanks
- Operate all valves inside treatment plant and booster pump stations
- Inspect chemical safety equipment such as emergency eyewash and showers
- Inspect, clean and repair controls panels in treatment plant and booster stations

Annual Basis –April - June

- Inspect storage tanks for defects and sanitary deficiencies
- Clean storage tanks as necessary
- Perform preventive maintenance on treatment plant and booster stations

Annual Basis –July – September

- Prepare systems for winter operation
- Decommission any unnecessary equipment

Annual Basis –October – December

- Check running amps on well pumps

3.2 SITE SPECIFIC PREVENTIVE MAINTENANCE

On September 16, 2019, BETA personnel conducted site visits at each well, pump station, storage tank and water treatment facility and inventoried critical equipment at each location. For each piece of equipment, a maintenance frequency/schedule was developed.

3.3 EAST BACON STREET WATER STORAGE TANK

The East Bacon Street Water Storage Tank is a 1.5 Million Gallon ground level steel tank located behind 86 East Bacon Street. Installed in the 1960's, the tank was most recently rehabilitated, cleaned and painted in 2016. In general, the tank is in good condition. **Table 3-1** outlines the preventive maintenance plan for the tank:

Table 3-1 East Bacon Street Preventive Maintenance Schedule

Asset	Task	Schedule/Frequency
East Bacon Tank	Exterior Inspection	Annually
	Interior Inspection	Every Two Years
	Cleaning	As Needed
	Painting	Every Ten Years
Ladder	Visual Inspection	Annually
SCADA panel	Inspection/Testing	Annually
Overflow	Visual Inspection	Annually
Antenna	Inspection/Testing	Annually
Radio	Inspection/Testing	Annually
Sample Port	Visual Inspection	Annually

3.4 SHARLENE LANE WATER STORAGE TANK

The Sharlene Lane Water Storage Tank is a 1.5 Million Gallon ground level concrete tank located at 62 Sharlene Lane. Installed in the 2001's, the tank was most recently cleaned in 2018. In general, the tank is in good condition. **Table 3-2** outlines the preventive maintenance plan for the tank:

Table 3-2 Sharlene Tank Preventive Maintenance Schedule

Asset	Task	Frequency/Schedule
Tank	Exterior Inspection	Annually
	Interior Inspection	Every Two Years
	Cleaning	As Needed
	Painting	Every Ten Years
Hydrant	Visual Inspection	Monthly
	Operate	Annually
Antenna	Inspection/Testing	Annually
Electrical Service	Visual Inspection	Annually
Sampling port	Visual Inspection	Annually
Pressure transmitter	Inspection/Testing	Annually
Pressure Gauge	Inspection/Testing	Annually
Altitude valve	Inspection/Testing	Annually

Asset	Task	Frequency/Schedule
Hatch	Visual Inspection	Annually
Control panel	Inspection/Testing	Annually
Power Distribution	Visual Inspection	Annually
Check valve	Visual Inspection	Monthly
Overflow	Visual Inspection	Annually
Ladder	Visual Inspection	Annually

3.5 EVERETT STREET BOOSTER PUMP STATION

The Everett Street Booster Pump Station is an underground pump station with two 5 horsepower (hp) pumps and capable of withdrawing 300 gallon per minute (gpm) from North Attleborough's system and discharging into Plainville's system. Installed in 2001, It is located at the intersection of Park Street and Everett Street. The station is generally in good condition. **Table 3-3** outlines the preventive maintenance plan for the station:

Table 3-3 Everett Street Booster Station Preventive Maintenance Schedule

Asset	Task	Schedule/Frequency
Hatch	Visual Inspection	Annually
Can	Visual Inspection	Monthly
Electrical Service	Visual Inspection	Annually
Radio (2)	Inspection/Testing	Annually
Pumps, 5 hp (2)	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer
Sump Pumps	Inspection/Testing	Monthly
Dehumidifier	Inspection/Testing	Monthly
Flow Meter	Inspection/Testing	Annually
Gauges	Inspection/Testing	Annually
Gate Valves	Visual Inspection	Monthly
	Operate	Annually
Check Valves	Visual Inspection	Monthly
Exhaust Fan	Visual Inspection	Monthly
	Operate	Annually
Piping	Visual Inspection	Monthly
	Painting	As Needed
Lighting (fluorescent)	Visual Inspection	Monthly
Control Panel	Inspection/Testing	Annually
Alarm Panels (2)	Inspection/Testing	Annually
Power Distribution	Visual Inspection	Annually

3.6 MAPLE STREET BOOSTER PUMP STATION

Located at the intersection of Maple Street and Heather Lane, the Maple Street Booster station is a package booster station housed in a brick control building. Constructed between 1996 and 1997, the station has 3 – 20 hp pumps and 2 – 7.5 hp pumps and is capable of 1,000 gpm. The station includes an emergency power engine/generator. Having been well maintained, the station is generally in good condition. **Table 3-4** outlines the preventive maintenance schedule for the station:

Table 3-4 Maple Street Booster Station Preventive Maintenance Schedule

Asset	Manufacturer	Model No.
Building	General Cleaning	Monthly
Radio	Inspection/Testing	Annually
Hydrants	Visual Inspection	Monthly
	Operate	Annually
Doors	Visual Inspection	Annually
Roof	Visual Inspection	Annually
Power Distribution	Visual Inspection	Annually
Lighting	Visual Inspection	Monthly
Fire Alarm	Inspection/Testing	Annually
Transfer Switch	Test	Annually
Nat. gas piping	Visual Inspection	Monthly
Electric Unit Heaters	Inspection/Testing	Annually
Nat. gas Unit Heaters	Inspection/Testing	Annually
Hydropneumatic tanks (2)	Visual Inspection	Weekly
	Clean	Annually
Pumps (3) 20 hp	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer
Check Valves	Visual Inspection	Monthly
Pumps (2) 7.5 hp	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer
Gate Valves	Visual Inspection	Monthly
	Operate	Annually
Skid	Visual Inspection	Monthly

Asset	Manufacturer	Model No.
Piping	Visual Inspection	Monthly
	Painting	As Needed
Pressure transmitter	Inspection/Testing	Annually
Vent	Visual Inspection	Monthly
	Operate	Annually
Exhaust fan	Visual Inspection	Monthly
	Operate	Annually
Control Panel	Inspection/Testing	Annually
Pressure Gauges	Inspection/Testing	Annually
Flow Reader	Inspection/Testing	Annually
Chart Recorder	Inspection/Testing	Annually
Bacteria Sampling Port	Visual Inspection	Annually
Kohler Engine Generator	Exercise	Weekly
	Test Under Load	Annually
	General Maintenance	Per Manufacturer

3.7 Messenger Street Booster Pump Station

The Messenger Street Booster Pump Station is located at 9 Messenger Street. A package booster station within a brick control build, the station includes 3-10 hp pumps and 1-75 hp pump with a capacity of 1,000 gpm. The station includes an emergency power engine/generator. Built in 2003 and having been well maintained, the station is in overall good condition. **Table 3-5** outlines the preventive maintenance schedule for the station:

Table 3-5 Messenger Street Booster Station Preventive Maintenance Schedule

Asset	Task	Frequency/Schedule
Building	General Cleaning	Monthly
	Visual Inspection Roofs/Doors	Annually
Hydrants	Visual Inspection	Monthly
	Operate	Annually
Antenna	Inspection/Testing	Annually
Doors	Visual Inspection	Annually
Roof	Visual Inspection	Annually
Alarm	Inspection/Testing	Annually
Ventilation	Visual Inspection	Monthly
	Operate	Annually
Power Distribution	Visual Inspection	Annually
Engine Generator	Exercise	Weekly
	Test Under Load	Annually
	General Maintenance	Per Manufacturer
Automatic Trans. Switch	Test	Annually
Heater	Inspection/Testing	Annually
Nat. gas piping	Visual Inspection	Monthly

Asset	Task	Frequency/Schedule
	Painting	As Needed
Hydropneumatic tanks (2)	Visual Inspection	Weekly
	Clean	Annually
Piping	Visual Inspection	Monthly
	Painting	As Needed
Pumps, 75 hp (1)	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer
Pumps, 10 hp (3)	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer
Skid	Visual Inspection	Monthly
Check Valves	Visual Inspection	Monthly
Gate Valves	Visual Inspection	Monthly
	Operate	Annually
PRV	Visual Inspection	Monthly
	Test Operation	Annually
Flow Meter	Visual Inspection	Monthly
	Calibration	Annually
Pressure Gauges	Inspection/Testing	Annually
Pump Panels (4)	Inspection/Testing	Annually
Control Panel	Inspection/Testing	Annually
Chart Recorder	Inspection/Testing	Annually
Flow Recorder	Inspection/Testing	Annually
Generator intake	Inspection/Testing	Annually

3.8 MIRIMICHI PUMP STATION

Table 3-6 outlines the preventive maintenance schedule for the station:

Asset	Task	Frequency/Schedule
Building	General Cleaning	Monthly
Roof	Visual Inspection	Annually
Doors	Visual Inspection	Annually

Asset	Task	Frequency/Schedule
Air Stripper	Visual Inspection	Monthly
	Testing	Annually
Propane Tanks (2)	Visual Inspection	Monthly
Antenna	Inspection/Testing	Annually
Power Distribution	Visual Inspection	Annually
Control Panel	Inspection/Testing	Annually
Heater (3)	Inspection/Testing	Annually
Sample Sink	Inspection/Testing	Annually
Hot Water Heater	Inspection/Testing	Annually
Fire Alarm System	Inspection/Testing	Annually
Pump Control Panel (4)	Inspection/Testing	Annually
High head pump, 40 hp	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer
Automatic Transfer Switch	Test	Annually
Lighting	Visual Inspection	Monthly
Plumbing	Visual Inspection	Monthly
Chem. Injection	Visual Inspection	Monthly
	Clean	Annually
Pressure Gauge	Inspection/Testing	Annually
Piping	Visual Inspection	Monthly
	Painting	As Needed
Eye wash	Inspection/Testing	Annually
PRV	Visual Inspection	Monthly
	Test Operation	Annually
Flow Meter	Visual Inspection	Monthly
	Calibration	Annually
Chlorine System	Visual Inspection	Monthly
	Clean	Annually
Caustic System	Visual Inspection	Monthly
	Clean	Annually
Gas piping	Visual Inspection	Monthly
UPS	Test Operation	Monthly
100 KW Generator	Exercise	Weekly
	Test Under Load	Annually
	General Maintenance	Per Manufacturer
Chem. Analyzer	Visual Inspection	Monthly

Asset	Task	Frequency/Schedule
	Clean	Annually
MCC	Inspection/Testing	Monthly

3.9 OASIS BOOSTER PUMP STATION

The Oasis Booster Pump Station was constructed in 2017 and includes skid mounted 3-10 hp pumps and 1-60hp fire pump enclosed in a modular control building. It has a rated capacity of 1,000 gpm. The station includes an emergency power engine/generator. Built in 2017 and having been well maintained, the station is in overall like-new condition. **Table 3-7** outlines the preventive maintenance schedule for the station:

Table 3-7 Oasis Booster Station Preventive Maintenance Schedule

Asset	Task	Frequency/Schedule
Building	General Cleaning	Monthly
Roof	Visual Inspection	Annually
Doors	Visual Inspection	Annually
Pumps, 10 hp (3)	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer
Fire pump, 60 hp	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer
Fire pump transfer Switch	Test	Annually
Fire pump controller	Inspection/Testing	Annually
SCADA	Inspection/Testing	Monthly
Alarm	Inspection/Testing	Annually
Alarm Control Panel	Inspection/Testing	Annually
Control Panel	Inspection/Testing	Annually
Flow Meter	Visual Inspection	Monthly
	Calibration	Annually
Heater	Inspection/Testing	Annually
Check Valves	Visual Inspection	Monthly
Gate Valves	Visual Inspection	Monthly
	Operate	Annually
Piping	Visual Inspection	Monthly

	Painting	As Needed
Skid	Visual Inspection	Monthly
Pneumatic Tank	Visual Inspection	Weekly
	Clean	Annually
Generator	Exercise	Weekly
	Test Under Load	Annually
	General Maintenance	Per Manufacturer
Auto Transfer Switch	Test	Annually
Lighting	Visual Inspection	Monthly
Transformer	Visual Inspection	Annually
Power Distribution	Visual Inspection	Annually
Antenna	Inspection/Testing	Annually

3.10 WALNUT HILL BOOSTER PUMP STATION

Located at the intersection of Walnut Terrace and Walnut Street, the Walnut Hill Booster Pump Station is a package booster station with 3-10 hp pumps and 1-75 hp fire pump enclosed in a brick control building. The station's overall capacity is 1,000 gpm. Built 2004, the station includes an emergency power engine/generator. Having been well-maintained, the station is overall in good condition. **Table 3-8** outlines the preventive maintenance schedule for the station:

Table 3-8 Walnut Hill Booster Station Preventive Maintenance Schedule

Asset	Task	Frequency/Schedule
Building	General Cleaning	Monthly
Radio	Inspection/Testing	Annually
Electrical Service	Visual Inspection	Annually
Power Distribution	Visual Inspection	Annually
Lighting	Visual Inspection	Monthly
Engine Generator	Exercise	Weekly
	Test Under Load	Annually
	General Maintenance	Per Manufacturer
Transfer Switch	Test	Annually
Exhaust Fans	Visual Inspection	Monthly
	Operate	Annually
Heating	Inspection/Testing	Annually
Control Panels (5)	Inspection/Testing	Annually
Pumps, 10 hp (3)	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer

Asset	Task	Frequency/Schedule
Pump, 75 hp (1)	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer
Flow Meter	Inspection/Testing	Annually
Pressure Gauges	Inspection/Testing	Annually
Piping	Visual Inspection	Monthly
	Painting	As Needed
Check Valves	Visual Inspection	Monthly
Gate Valves	Visual Inspection	Monthly
	Operate	Annually
Roof	Inspection/Testing	Annually
Doors	Inspection/Testing	Annually
Fire Alarm	Inspection/Testing	Annually
Skid	Visual Inspection	Monthly
Blow Off Valves	Inspection/Testing	Annually
Pressure Transmitters	Inspection/Testing	Annually
Chart Recorder	Inspection/Testing	Annually
UPS	Inspection/Testing	Annually
Gas Piping	Visual Inspection	Monthly
HVAC	Inspection/Testing	Annually
Propane Tank	Visual Inspection	Annually
Hydrants	Visual Inspection	Monthly
	Operate	Annually
PRV (outside building)	Visual Inspection	Monthly
	Test Operation	Annually

3.11 WELL 3B AND 3C

Table 3-9 outlines the components evaluated in the preventive maintenance schedule for the wells:

Table 3-9 Well 3B and 3C Preventive Maintenance Schedule

Asset	Task	Schedule/Frequency
Building	General Cleaning	Monthly
	Visual Inspection Roofs/Doors	Annually
Caustic Tank	Check Levels	Daily
	Visual Inspection	Weekly
	Clean	Annually

Asset	Task	Schedule/Frequency
Power Distribution	Visual Inspection	Annually
Manual Transfer Switch	Inspection/Testing	Monthly
Lighting	Visual Inspection	Monthly
Control Panel	Inspection/Testing	Annually
SCADA	Inspection/Testing	Monthly
Heater	*Inspection/Testing*	Annually
Piping	Visual Inspection	Monthly
	Painting	As Needed
Pressure Transmitter	Inspection/Testing	Annually
Flow Meter	Inspection/Testing	Annually
Gate Valve	Visual Inspection	Monthly
	Operate	Annually
Check Valve	Visual Inspection	Monthly
Emergency Shower	Inspection/Testing	Annually
Dehumidifier	Inspection/Testing	Monthly
Radio	Inspection/Testing	Annually
Intrusion Alarm	Inspection/Testing	Annually
Hydrants	Visual Inspection	Monthly
	Operate	Annually
Well 3C	Check Production	Daily
	Inspect Well Heads	Monthly
Well 3B	Check Production	Daily
	Inspect Well Heads	Monthly

3.12 WELL BUILDING 1, 1A, AND 5

Table 3-10 outlines the components evaluated in the preventive maintenance schedule for the wells:

Table 3-10 Well Building 1, 1A, and 5 Preventive Maintenance Schedule

Asset	Task	Frequency/Schedule
Building	General Cleaning	Monthly
Roof	Inspection/Testing	Annually
Door	Visual Inspection	Monthly
Piping	Visual Inspection	Monthly
	Painting	As Needed
Well Pump, 40 hp	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer

Asset	Task	Frequency/Schedule
Flow Meters	Inspection/Testing	Annually
Pressure gauge	Inspection/Testing	Annually
Heater	Inspection/Testing	Annually
Gate valves	Visual Inspection	Monthly
	Operate	Annually
Power Distribution	Visual Inspection	Annually
Lighting	Visual Inspection	Monthly
Electrical	Visual Inspection	Annually
Check Valve	Visual Inspection	Monthly

3.13 WELL 2 AND 2A

Table 3-11 outlines the components evaluated in the preventive maintenance schedule for the wells:

Table 3-11 Well 2 and 2A Preventive Maintenance Schedule

Asset	Task	Frequency/Schedule
Building	General Cleaning	Monthly
Roof	Inspection/Testing	Annually
Door	Visual Inspection	Monthly
Heater	Inspection/Testing	Annually
Pump, 15 hp	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer
Piping	Visual Inspection	Monthly
	Painting	As Needed
Check valve	Visual Inspection	Monthly
Gate valve	Visual Inspection	Monthly
	Operate	Annually
Power Distribution	Visual Inspection	Annually
Pressure gauge	Inspection/Testing	Annually
Electrical	Visual Inspection	Annually
Flow meter (2)	Inspection/Testing	Annually
Lighting	Visual Inspection	Monthly

3.14 WATER TREATMENT PLANT UV BUILDING

Table 3-12 outlines the components evaluated in the preventive maintenance schedule for the Water Treatment Plant UV Building:

Table 3-12 Water Treatment Plant UV Building Preventive Maintenance Schedule

Asset	Task	Frequency/Schedule
Building	General Cleaning	Monthly
Door	Visual Inspection	Annually
Roof	Visual Inspection	Annually
Heater	Inspection/Testing	Annually
Chemical Analyzes	Visual Inspection	Weekly
	Calibrate	Annually
AC	Inspection/Testing	Annually
Eye wash	Inspection/Testing	Annually
UV Panel	Inspection/Testing	Annually
Pump Control Panel	Inspection/Testing	Annually
MCC	Inspection/Testing	Monthly
Ventilation	Visual Inspection	Monthly
	Operate	Annually
Backwash pump, 15 hp	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer
Flow meter	Visual Inspection	Monthly
	Calibration	Annually
Dehumidifier	Inspection/Testing	Monthly
Piping	Visual Inspection	Monthly
	Painting	As Needed
Air release valve (3)	Inspection/Testing	Annually
High head pumps, 50 hp (2)	Record Run times	Daily
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer
Valve Pit	Inspection/Operation	Annually
Gate valves	Visual Inspection	Monthly
	Operate	Annually
Check valves	Visual Inspection	Monthly

Asset	Task	Frequency/Schedule
UV Tank	Visual Inspection	Monthly
	Clean	Annually
Compressor	Visual Inspection	Monthly
Gas piping	Visual Inspection	Monthly
Heater (pump room)	Inspection/Testing	Annually
Lighting	Visual Inspection	Monthly
UV cleaning	Visual Inspection	Monthly
	Clean	Annually
Contact tank	Exterior Inspection	Annually
	Interior Inspection	Every Two Years
	Cleaning	As Needed
	Painting	Every Ten Years

3.15 TURNPIKE LAKE WATER TREATMENT PLANT

Table 3-13 outlines the components evaluated in the preventive maintenance schedule for the Water Treatment Plant:

Table 3-13 Water Treatment Plant Preventive Maintenance Schedule

Asset	Task	Frequency/Schedule
Building	General Cleaning	Monthly
Roof	Visual Inspection	Annually
Doors	Visual Inspection	Annually
MCC	Inspection/Testing	Monthly
SCADA	Inspection/Testing	Monthly
Transformer	Visual Inspection	Annually
Electrical Panels	Visual Inspection	Annually
Generator	Exercise	Weekly
	Test Under Load	Annually
	General Maintenance	Per Manufacturer
Ventilation, gen. room	Visual Inspection	Monthly
	Operate	Annually
ATS	Test	Annually
Generator-room heater	Inspection/Testing	Annually
Nat. gas piping	Visual Inspection	Monthly
Backwash panel	Inspection/Testing	Annually
Filters (3)	Visual Inspection	Monthly
	Media Replacement	Every Five Years
Gate valves	Visual Inspection	Monthly
	Operate	Annually
Check valves	Visual Inspection	Monthly
Water Booster Pump	Record Run times	Daily

Asset	Task	Frequency/Schedule
	Record Flow Rates	Monthly
	Check Seals	Monthly
	Check Vibration	Monthly
	Check Bearings	Yearly
	Replace Oil	Per Manufacturer
	Replace Bearings	Per Manufacturer
Low Pressure Air Blower	Inspection/Testing	Monthly
Piping	Visual Inspection	Monthly
	Painting	As Needed
Pressure gauges	Inspection/Testing	Annually
Chemical analyzers	Visual Inspection	Weekly
	Calibrate	Annually
Chlorine system	Visual Inspection	Monthly
	Clean	Annually
Hydroxide system	Visual Inspection	Monthly
	Clean	Annually
Raw Water flow meter	Visual Inspection	Monthly
	Calibration	Annually
Emergency shower	Inspection/Testing	Annually
Lighting	Visual Inspection	Monthly
Fire Alarm	Inspection/Testing	Annually
Ventilation	Visual Inspection	Monthly
	Operate	Annually
Heater (2)	Inspection/Testing	Annually

APPENDIX A – INSPECTION REPORTS

(6)

*no emergency power

Location: East Bacon Tank

Date Inspected: 9/16/19

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
East. Bacon Tank			1960s	good	Rehabed ~5 years ago, steel
ladder				good	
SCADA panel	Allen Bradley			fair	
overflow				good	
Antenna			2017	new good	
radio			2017	good	
sample port				good	

(1)

Location: Everett Booster Pump Station **Date Inspected:** 9/16/19

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Hatch	[illegible]		[illegible]	Good	
Can	EFI		2001	Good	Some rust on floor
Electrical Service	Duncan		2001	Good	
Radio (2)			2001	Good	
Pumps	EFI		2001	Good	Rebuilt 2015
Sump Pumps	EFI		2001	Good	
Dehumidifier	EFI		2019	"New"	
Flow Meter	EFI		2001	Good	
Gages	EFI		2001	Good	
Gate Values	EFI		2001	Good	
Check Values	EFI		2001	Good	
Exhaust Fan	EFI		2001	Good	
Piping	EFI		2001	Good	Some welds starting to leak
Lighting (flourescent)	EFI		2001	Good	
Control Panel	EFI		2001	Good	
Alarm Panels (2)	EFI		2001	Good	
Power Distribution	EFI		2001	Good	

(3)

Location: Well 3B+3C **Date Inspected:**

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Building			1973	Poor	Brick, no ventilation, floor in bad shape
Caustic tank					Not in use anymore
Power Distribution	GE		1973	Fair	~~Plug in/transformer~~ new meter
Manual transfer switch	RossElectric		1973	Poor	
Lighting				Fair	
Control Panel	Erickson		2003	Good	
SCADA	Erickson		2003	Good	
Heater			2015	Poor	
Piping			1973	Fair	Piping installed in 2003 better cond.
Pressure transmitter			2003		
Flow Meter	Elster		2017	Good	
Gate Valve			1973	Fair	
Check Valve			1973	Fair	
Emergency Shower			1973	Poor	
Dehumidifier	Dri-eaz			Good	
Radio					
Intrusion Alarm	Simplex		1973	Poor	NOT working
Hydrants			2000	Good	
Well 3C			2003	Poor	
Well 3B			2003	Poor	

(7)

Location: Messenger St Booster **Date Inspected:**

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Building			2003	good	
Hydrants	Mueller		2002	good	
Antenna				good	
Doors			2003	good	
Roof			2003	good	
Alarm	SigCom		2003	good	
Ventilation			2003	good	
PowerDist	Square D		2003	good	
Engine Generator	Cummins		2003	good	nat. gas
Automatic Trans. Switch	Cummins		2003	good	
Heater	Empire		2003	good	nat. gas
nat. gas piping			2003	good	
hydropneumatic tanks(2)	Wessels		2003	good	fittings rusting
piping			2003	good	rusting @ connections
Pumps (75 hp)-1			2003	good	rusting on motors *no VFDs*
Pumps, 10 hp (3)			2003	good	rusting → Pump 2 motor replaced 2017
skid			2003	good	
check valves			2003	good	
gate valves			2003	good	1 valve replaced 2017
PRV			2003	good	
flow meter			2003	good	
Pressure gauges			2003	good	

Location: Messenger St **Date Inspected:**

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Pump panels (4)	flo-pak		2003	good	
Control panel	flo-pak		2003	good	
Chart recorder	ABB		2003	good	do not use
flow recorder	thermo polysonics		2003	good	
generator intake			2003	good	blocked by bushes

(8)

Location: Mirimichi Pump Station **Date Inspected:** 9/16/19

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Building			2005	good	brick, no raw water meter
Roof			2005	good	
Doors			2005	good	
Air stripper	Delta Cooling Towers		2005	good	
Propane tanks (2)			2005	good	
Antenna				good	
Power Distribution			2005	good	
Control Panel	Electrical Installations		2005	good	
Heater (3)	Reznor		2005	good	
Sample Sink			2005	good	
Hot water heater	A.O. Smith		2005	poor	Does not work
Fire alarm system	fire-lite		2005	fair	Does not call fire dept
Pump control panel (4)	Square D		2005	good	
High head pump			2005	good	
Automatic transfer			2005	good	
Lighting			2005	good	
Plumbing			2005	good fair	
Chem injection			2005	good	chlorine + caustic
Pressure gauge			2005	good	
Piping			2005	fair	rusting @ chem injection
Eye wash			2005	good	
PRV			2005	good	

Location: Miramichi

Date Inspected:

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
flow meter			2005	good	
chlorine ~~tank~~ system			2005	good	
caustic ~~tank~~ system			2005	good	500 gal bulk, 55 gal day
gas piping			2005	good	propane
UPS			2017	good	
100 KW generator	Kohler		2005	good	
~~them~~ chem analyzer	Hach		2005	good	
MCC			2005	good	

Location: Oasis Booster **Date Inspected:**

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Building			2017	"New"	
Roof			2017	"New"	
Doors			2017	"New"	
Pumps, 10hp (3)			2017	↓	
Fire pump, 60hp			↓	↓	
Fire pump tran. switch	UL		↓	↓	
Fire pump Controller	UL		↓	↓	
SCADA	HighTide tech.		↓	↓	
Alarm	SigCom		↓	↓	
Alarm Control Panel	Honeywell		↓	↓	
Control Panel	FloPak		↓	↓	
Flow Meter	FloCat		↓	↓	
Heater			↓	↓	electric
Check Valves			↓	↓	
Gate Valves			↓	↓	
Piping			↓	↓	
Skid	Flo-pak		↓	↓	
Pneumatic Tank	Wessels			Good	not operational
Generator	Generac		2017	"New"	water + sewer
ATS	Generac		↓	↓	
Lighting					
Transformer	Eaton				

Location: Oasis

Date Inspected:

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Power Distribution					
Antenna					

(5)

Location: Sharlene Tank Date Inspected: 9/16/19

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Tank			2001	Good	Concrete, difficult to drain
Hydrant	MH		2001	Fair	
Antenna				Good	
Electrical Service	Shlumberger		2001	Fair	no emergency backup power
Sampling port			2019	New	
Pressure trans.			2001	good	
Pressure gauge			2001	good	
altitude valve			2001	fair	
Hatch			2001	fair	
Control Panel			2001	Fair	
Power Dist.			2001	Fair	
Check valve			2001	fair	
overflow			2001	fair	
ladder			2001	fair	

Location: WTP

Date Inspected: 9/16/19

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Boliding			1990	good	
Roof			~~1990~~	good	new 5 years ago
Doors			1990	good	
MCC	Siemens		1990	fair	
SCADA			1990	fair	
transformer			2009	good	
Electrical Panels			1990	fair	
generator	Consolidated power		1990	good	200 KW
ventilation, gen. room			1990	good	
ATS	Russelectric		1990	good	
generator room heater	EUH-3		1990	good	
nat gas piping				good	
Backwash panel	Hungerford + Terry		1990	good	newer HMI ~5 yrs
Filters (3)				good	rebuilt ~5 yrs ago green sand+
Gate valves			2014	good	
check valves			2014	good	
Water booster pump			1990	poor	doesn't work
blower			1990	good	
Piping				good	
Pressure gauges				poor	don't work
Chemical analyzers			2003	poor	already bought new ones
Chlorine system			~~Rama~~	good	new tank 2018 bulk new transfer pumps

Location: **Date Inspected:**

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
hydroxide system			[illegible]	good	new tank 2018; new transfer pump
raw water flowmeter			2014	good	
emergency shower				good	
lighting				good fair	
fire alarm				good	
ventilation				fair	air handling unit water mdc
airblend					does not work
heater (2)				good	new

Location: WTP #2 building **Date Inspected:**

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Building			2003	poor	ceiling cracks + leaks, new floor
Door			2003	good	
Roof			2003	poor	leaking
Heater	Rinnai		2003	poor	does not work
Chemical analyzers	Hach		2003	poor	values don't work pH, turbidimeter, chlorine
AC	Mitsubishi		2017	fair	leaks
eye wash			2003	fair	doesn't send alarm
UV Panel	Wedeco		2003	good	
Pump Control Panel	EI		2003	good	
MCC	Siemens		2003	good	UFDs replaced in last 5 yrs
ventilation			2003	fair	
backwash pump	Floway		2003	good	
~~totalizer~~ flowmeter	Magflo Danfoss			good	
dehumidifier	Hi-E Dry		2003	poor	doesn't work
Piping			2003	poor	bolts in bad shape
air release value (3)	Crispin		2003	good	
high head pumps (2)	Floway		2003	fair	
Valve Pit			2003	poor	seal leaks → pit w/ GW
gate valves			2003	fair	(2 UV value replaced 2019)
check valves			2003	fair	
UV tank	Wedeco			good	
Compressor	Ingersoll-Rand		2003	good	

Location: WTP #2 building **Date Inspected:**

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
gas piping			2003	good	nat. gas
heater - pump room	Reznor		2003	good	
lighting			2003	good	
UV cleaning	Wedeco			fair	starting to rust out
contact tank			2003	good	concrete, baffled

Location: Maple Street **Date Inspected:** 9/16/19

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Building			1996	Good	Brick
Radio				Good	
Hydrants			1996	Fair	
Doors			1996	Good	
Roof			1996	Good	
Power Distrib.	Cutler-Hammer		1997	Good	
Lighting			1997	Good	
Fire Alarm	Signal Con.			Good	
Transfer Switch	Kohler		1997	Good	
Engine Generator	Kohler		1997	~~Fair~~ Good	100 KW
Nat. gas piping				Good	
Heaters	QMark		1997	Good	2 ⇒ electric + nat. gas
Hydropneumatic tanks (2)	Hydro Combulator		1997	Good	
Pumps (3) 20 hp			1997	Fair	no VFDs, original
Check Valves	Aurora		1997	Fair	
Pumps (2) 7.5 hp				Fair	no VFDs, one rebuilt, one replaced
Gate valves			1997	Fair	
Skid			1997	Fair	some rust
Piping			1997	Fair	welds leak, some rust
Pressure transmitter			1997	Fair	
Vent			1996	Poor	motor doesn't work
Exhaust fan			1996	Poor	won't close

Location: Maple Street **Date Inspected:**

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Control Panel	Liqui-tnol		1997	Good	HMI newer: 2014
Pressure Gauges	Liqui Tnol		1997	Good	
Flow Reader	Polysonics		1997	Good	
Chart Recorder	Capital Controls		1997	Fair	Do not use
Bacteria Sampling Port				Poor	location @ floor drain

(2)

7/2

Location: Walnut Hill Booster

Date Inspected: 9/16/19

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Building			2004	Good	Some Siding needs replacement, 1
Radio				Good	Antenna replaced 2017
Electrical Service	GE			Good	
Power Distribution	Square D			Good	
Lighting				Good	
Engine Generator	Cummins	GGKC-SL08721	2004	Good	can draw in snow from outside and covers main switch, runs on propane
Transfer Switch	Cummins			Good	
Exhaust Fans				Good	Need new exhaust fan (taken out)
Heating	Rinnai	556F		Good	Won't turn on after generator turns on
~~Combination~~				Good	have to manually restart
Control Panels (5)	Flo-Pak Allen Bradley	APB-VS-05-P	2004	Good	Panel Need new for fire pump won't close
Pumps (3)			2004	Good	have to go into panel to physically hit reset Pumps have VFDs
Pump Motors (10hp)			2004	Good	
Fire Pump			2004	Good	
Fire pump motor (75hp)			2004	Good	
Flow Meter				Good	
Pressure Gauges				Good	
Piping				Good	
Check Valves				Good	Fire check valve replaced 2018
Gate Valves				Good	
Roof			2004	Good	15 years old
Doors				Good	

Location: **Date Inspected:**

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Fire Alarm	Sig Com	ESL 1500	2004	Good	Radio
Skid			2004	Fair	some rusting
Blow off valves			2004	Good	
Pressure transmitters	Foxboro		2004	Good	
Chart Recorder	ABB		2004	—	Doesn't work but not needed
UPS				Good	newer, has been replaced
Gas piping			2004	Good	
HVAC	Electrostatic shield		2004	Good	No AC
Propane Tank					
Hydrants			2003	Good	
PRV (outside bldg)					org. to station

Location: Well Bldg (1, 14+5) Date Inspected: 9/16/19

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Bldg			1964	poor	floor in bad shape Org. building, brick, novent.
Roof			1964	poor	Vegetation growing on roof
Door			1964	poor	
Piping			~2000	good	
Well Pumps				fair	Don't use
Flow Meters	Krohne		2003	good	
Pressure gauge				good	
Heater				good	
gate valves				good	
Power dist				fair	
lighting				poor	
electrical				fair	
check valve				poor	needs replacement, leaks

Location: Well Bldg (2+2A) Date Inspected:

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments
Building				Poor	no ventilation, wall leaking
Roof					
Door				Poor	no door frame, rotted
Heater					
Pump					
Piping					
Check valve					
gate valve					
Power dist.					
Pressure gauge					
Electrical					
flowmeter (2)	Krohne				
lighting					
*no way to isolate from 1,4+5 when cleaning meds hydrant					

APPENDIX B – RISK ASSESSMENT AND COSTS

Location: East Bacon Tank **Date Inspecte** 9/16/2019 **Current Year:** 2019

*no emergency power

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments	Original Useful Life	Age	Remaining Life	Condition Factor	EvRUL	EcRUL	Vulnerability	Public/Employee Safety	Financial Impact	Environment/Regulatory	Customer Service	Overall Criticality	Risk	Cost ($)	Cost/Year	CIP
East Bacon Tank	-		1960s	Good	Rehabed ~5 years ago, steel	30	5	25	0.25	22.5	7.5	0.044	4	10	4	7	5.800	0.258	$ 4,000,000	$ 160,000	$ 160,000
Ladder	-			Good		100	5	95	0.25	75	25	0.013	4	1	1	1	1.900	0.025	$ 2,000	$ 21	$ -
SCADA panel	Allen Bradley			Fair		20	5	15	0.5	10	0	0.100	4	4	1	4	3.100	0.310	$ 25,000	$ 1,667	$ 1,667
Overflow				Good		30	5	25	0.25	22.5	7.5	0.044	1	1	1	1	1.000	0.044	$ 5,000	$ 200	$ -
Antenna	-		2017	Good		10	2	8	0.25	7.5	2.5	0.133	4	1	1	1	1.900	0.253	$ 2,000	$ 250	$ 250
Radio			2017	Good		7	2	5	0.25	5.25	1.75	0.190	1	1	1	1	1.000	0.190	$ 2,000	$ 400	$ -
Sample Port				Good		10	5	5	0.25	7.5	2.5	0.133	1	1	4	1	1.900	0.253	$ 1,000	$ 200	$ 200

Capital Improvement Plan Cost Total $ 162,117

Location: Everett Booster Pump Station **Date Inspected:** 9/16/2019 **Current Year: 2019** 2019

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments	Original Useful Life	Age	Remaining Life	Condition Factor	EvRUL	EcRUL	Vulnerability	Public/Employee Safety	Financial Impact	Environment/Regulatory	Customer Service	Overall Criticality	Risk	Cost ($)	Cost/Year	CIP
Hatch	Bilco		2001	Good		30	18	12	0.25	22.5	7.5	0.044	4	1	1	1	1.900	0.084	$ 1,600	$ 133	$ -
Can	EFI		2001	Good	Some rust on floor	30	18	12	0.25	22.5	7.5	0.044	4	7	1	1	3.100	0.138	$ 25,000	$ 2,083	$ -
Electrical Service	Duncan		2001	Good		20	18	2	0.25	15	5	0.067	4	4	1	4	3.100	0.207	$ 15,000	$ 7,500	$ -
Radio (2)			2001	Good		20	18	2	0.25	15	5	0.067	4	1	1	4	2.500	0.167	$ 2,000	$ 1,000	$ -
Pumps, 5 hp (2)	EFI	PVF 215TBDW7087BB L	2001	Good	Rebuilt 2015	10	4	6	0.25	7.5	2.5	0.133	4	4	4	4	4.000	0.533	$ 2,016	$ 336	$ 336
Sump Pumps	EFI		2001	Good		20	18	2	0.25	15	5	0.067	1	1	1	1	1.000	0.067	$ 200	$ 100	$ -
Dehumidifier	EFI	*BERKO?*	2019	"New"		8	0	8	0	8	4	0.125	1	1	1	1	1.000	0.125	$ 1,500	$ 188	$ -
Flow Meter	EFI	*neptune hp turbine?*	2001	Good		20	18	2	0.25	15	5	0.067	1	1	4	4	2.500	0.167	$ 2,100	$ 1,050	$ -
Gauges	EFI	*Ashcroft Duragauge 1279*	2001	Good		20	18	2	0.25	15	5	0.067	1	1	4	4	2.500	0.167	$ 100	$ 50	$ -
Gate Valves	EFI		2001	Good		35	18	17	0.25	26.25	8.75	0.038	1	1	1	1	1.000	0.038	$ 7,000	$ 412	$ -
Check Valves	EFI	*ValMatic?*	2001	Good		35	18	17	0.25	26.25	8.75	0.038	1	4	1	1	1.600	0.061	$ 7,500	$ 441	$ -
Exhaust Fan	EFI		2001	Good		20	18	2	0.25	15	5	0.067	7	1	1	1	2.800	0.187	$ 500	$ 250	$ -
Piping	EFI		2001	Good	Some welds starting to leak	35	18	17	0.25	26.25	8.75	0.038	4	4	1	4	3.100	0.118	$ 15,000	$ 882	$ -
Lighting (flourescent)	EFI		2001	Good		20	18	2	0.25	15	5	0.067	4	1	1	1	1.900	0.127	$ 100	$ 50	$ -
Control Panel	EFI		2001	Good		20	18	2	0.25	15	5	0.067	4	4	4	4	4.000	0.267	$ 15,000	$ 7,500	$ 7,500
Alarm Panels (2)	EFI		2001	Good		20	18	2	0.25	15	5	0.067	4	4	4	4	4.000	0.267	$ 1,500	$ 750	$ 750
Power Distribution	EFI		2001	Good		20	18	2	0.25	15	5	0.067	4	4	1	4	3.100	0.207	$ 5,000	$ 2,500	$ -
																			Capital Improvement Plan Cost Total		**$ 8,586**

Location: Well 3B + 3C **Date Inspected:** 9/16/2019 **Current Year: 2019** 2019

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments	Original Useful Life	Age	Remaining Life	Condition Factor	EvRUL	EcRUL	Vulnerability	Public/Employee Safety	Financial Impact	Environment/Regulatory	Customer Service	Overall Criticality	Risk	Cost ($)	Cost/Year	CIP
Building	-		1973	Poor	Brick, no ventilation, floor in bad shape	30	46	-16	0.75	7.5	-7.5	0.133	4	4	1	4	3.100	0.413	$ 25,000	$ 25,000	$ 25,000
Caustic Tank				Poor	not in use anymore	30	46	-16	0.75	7.5	-7.5	0.133	1	1	1	1	1.000	0.133	$ 5,000	$ 5,000	$ -
Power Distribution	GE		1973	Fair	new meter	20	46	-26	0.5	10	0	0.100	4	4	1	7	3.700	0.370	$ 5,000	$ 5,000	$ 5,000
Manual Transfer Switch	Russ Electric		1973	Poor		20	46	-26	0.75	5	-5	0.200	4	4	1	4	3.100	0.620	$ 5,000	$ 5,000	$ 5,000
Lighting				Fair		20	46	-26	0.5	10	0	0.100	1	1	1	1	1.000	0.100	$ 1,000	$ 1,000	$ -
Control Panel	RE Erickson		2003	Good		20	16	4	0.25	15	5	0.067	4	4	4	4	4.000	0.267	$ 15,000	$ 3,750	$ 3,750
SCADA	RE Erickson		2003	Good		5	16	-11	0.25	3.75	1.25	0.267	4	4	4	4	4.000	1.067	$ 10,000	$ 10,000	$ 10,000
Heater	*BERKO*		2015	Poor		10	4	6	0.75	2.5	-2.5	0.400	1	1	1	1	1.000	0.400	$ 400	$ 67	$ 67
Piping			1973	Fair	piping installed in 2003 better condition	35	16	19	0.5	17.5	0	0.057	4	4	1	4	3.100	0.177	$ 15,000	$ 789	$ -
Pressure Transmitter			2003	Good		7	16	-9	0.25	5.25	1.75	0.190	4	1	1	4	2.500	0.476	$ 1,000	$ 1,000	$ 1,000
Flow Meter	Elster		2017	Good		10	2	8	0.25	7.5	2.5	0.133	4	1	1	4	2.500	0.333	$ 800	$ 100	$ 100
Gate Valve			1973	Fair		35	46	-11	0.5	17.5	0	0.057	1	1	1	4	1.600	0.091	$ 7,000	$ 7,000	$ -
Check Valve			1973	Fair		35	46	-11	0.5	17.5	0	0.057	1	1	1	4	1.600	0.091	$ 7,500	$ 7,500	$ -
Emergency Shower			1973	Poor		20	46	-26	0.75	5	-5	0.200	7	1	1	1	2.800	0.560	$ 500	$ 500	$ 500
Dehumidifier	Dri-eaz			Good		8	16	-8	0.25	6	2	0.167	1	1	1	1	1.000	0.167	$ 1,500	$ 1,500	$ -
Radio				Good		7	16	-9	0.25	5.25	1.75	0.190	4	1	4	4	3.400	0.648	$ 2,500	$ 2,500	$ 2,500
Intrusion Alarm	Simplex		1973	Poor	not working	7	46	-39	0.75	1.75	-1.75	0.571	1	1	1	1	1.000	0.571	$ 2,500	$ 2,500	$ 2,500
Hydrants	*American Darling Valve*		2000	Good		40	19	21	0.25	30	10	0.033	1	1	1	1	1.000	0.033	$ 10,000	$ 476	$ -
Well 3C			2003	Poor		25	16	9	0.75	6.25	-6.25	0.160	7	7	10	10	8.500	1.360	$ 350,000	$ 38,889	$ 38,889
Well 3B			2003	Poor		25	16	9	0.75	6.25	-6.25	0.160	7	7	10	10	8.500	1.360	$ 350,000	$ 38,889	$ 38,889

Location: Messenger St Booster **Date Inspected:** 9/16/2019 **Current Year: 2019** 2019

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments	Original Use	Age	Remaining Life	Condition Factor	EvRUL	EcRUL	Vulnerability	Public/Employee Safety	Financial Impact	Environment/Regulatory	Customer Service	Overall Criticality	Risk	Cost ($)	Cost/Year	CIP
Building	-		2003	Good		30	16	14	0.25	22.5	7.5	0.044	4	4	1	1	2.500	0.111	$ 100,000	$ 7,143	$ -
Hydrants	Mueller	5 1/4	2002	Good		40	17	23	0.25	30	10	0.033	4	1	1	1	1.900	0.063	$ 10,000	$ 435	$ -
Antenna	-		2003	Good		10	15	-5	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 2,000	$ 2,000	$ -
Doors			2003	Good		100	16	84	0.25	75	25	0.013	1	1	1	1	1.000	0.013	$ 3,000	$ 36	$ -
Roof			2003	Good		25	16	9	0.25	18.75	6.25	0.053	4	1	1	4	2.500	0.133	$ 15,000	$ 1,667	$ -
Alarm	SigCom		2003	Good		7	16	-9	0.25	5.25	1.75	0.190	4	1	1	1	1.900	0.362	$ 2,000	$ 2,000	$ 2,000
Ventilation			2003	Good		15	16	-1	0.25	11.25	3.75	0.089	4	1	1	1	1.900	0.169	$ 1,500	$ 1,500	$ -
Power Distribution	Square D		2003	Good		20	16	4	0.25	15	5	0.067	4	4	1	7	3.700	0.247	$ 5,000	$ 1,250	$ 1,250
Engine Generator	Cummins		2003	Good	nat. gas	20	16	4	0.25	15	5	0.067	4	4	4	7	4.600	0.307	$ 150,000	$ 37,500	$ 37,500
Automatic Trans. Switch	Cummins		2003	Good		20	16	4	0.25	15	5	0.067	4	4	4	7	4.600	0.307	$ 10,000	$ 2,500	$ 2,500
Heater	Empire		2003	Good	nat. gas	13	16	-3	0.25	9.75	3.25	0.103	1	1	1	1	1.000	0.103	$ 1,500	$ 1,500	$ -
Nat. gas piping			2003	Good		50	16	34	0.25	37.5	12.5	0.027	1	1	1	4	1.600	0.043	$ 2,500	$ 74	$ -
Hydropneumatic tanks (2)	Wessels		2003	Good	fittings rusting	10	16	-6	0.25	7.5	2.5	0.133	1	1	1	4	1.600	0.213	$ 1,000	$ 1,000	$ -
Piping			2003	Good	rusting @ connections	35	16	19	0.25	26.25	8.75	0.038	1	1	1	7	2.200	0.084	$ 15,000	$ 789	$ -
Pumps, 75 hp (1)	*WEG*	07518EP3E365TS	2003	Good	rusting motors *no UFDs*	10	16	-6	0.25	7.5	2.5	0.133	4	4	4	4	4.000	0.533	$ 25,000	$ 25,000	$ 25,000
Pumps, 10 hp (3)	*WEG*	01036EP3E215JM	2003	Good	rusting > Pump 2 motor replaced 2017	10	16	-6	0.25	7.5	2.5	0.133	4	4	4	7	4.600	0.613	$ 15,000	$ 15,000	$ 15,000
Skid	*Flo-pak*		2003	Good		8	16	-8	0.25	6	2	0.167	1	1	1	1	1.000	0.167	$ 2,500	$ 2,500	$ -
Check Valves	*Mueller*		2003	Good		35	16	19	0.25	26.25	8.75	0.038	1	1	1	1	1.000	0.038	$ 7,500	$ 395	$ -
Gate Valves	*NIBCO*		2003	Good	1 valve replaced 2017	35	16	19	0.25	26.25	8.75	0.038	1	1	1	1	1.000	0.038	$ 7,000	$ 368	$ -
PRV	*NIBCO*		2003	Good		35	16	19	0.25	26.25	8.75	0.038	1	1	1	1	1.000	0.038	$ 5,000	$ 263	$ -
Flow Meter			2003	Good		10	16	-6	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 2,500	$ 2,500	$ -
Pressure Gauges	*WIKA*	*0-300 psi x6*	2003	Good		5	16	-11	0.25	3.75	1.25	0.267	1	1	1	1	1.000	0.267	$ 500	$ 500	$ 500
Pump Panels (4)	Flo-pak		2003	Good	*EACH ONE HAS DIFFERENT AMPS*	20	16	4	0.25	15	5	0.067	4	4	4	7	4.600	0.307	$ 10,000	$ 2,500	$ 2,500
Control Panel	Flo-pak		2003	Good		20	16	4	0.25	15	5	0.067	4	4	4	7	4.600	0.307	$ 15,000	$ 3,750	$ 3,750
Chart Recorder	ABB		2003	Good	do not use	5	16	-11	0.25	3.75	1.25	0.267	1	1	1	1	1.000	0.267	$ 2,000	$ 2,000	$ 2,000
Flow Recorder	Thermo Polysonics	*Thermo Fisher?*	2003	Good		7	16	-9	0.25	5.25	1.75	0.190	1	1	1	1	1.000	0.190	$ 2,000	$ 2,000	$ -
Generator intake			2003	Good	blocked by bushes	35	16	19	0.25	26.25	8.75	0.038	1	1	1	1	1.000	0.038	$ 5,000	$ 263	$ -
																			Capital Improvement Plan Cost Total		**$ 92,000**

Location: Mirimichi Pump Station **Date Inspected:** 9/16/2019 **Current Year:** 2019

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments	Original Use	Age	Remaining Life	Condition Factor	EvRUL	EcRUL	Vulnerability	Public/Employee Safety	Financial Impact	Environment/Regulatory	Customer Service	Overall Criticality	Risk	Cost ($)	Cost/Year	CIP
Building			2005	Good	brick, no raw water meter	30	14	16	0.25	22.5	7.5	0.044	1	1	1	1	1.000	0.044	$ 100,000	$ 6,250	$ -
Roof			2005	Good		25	14	11	0.25	18.75	6.25	0.053	1	1	1	1	1.000	0.053	$ 15,000	$ 1,364	$ -
Doors			2005	Good		100	14	86	0.25	75	25	0.013	1	1	1	1	1.000	0.013	$ 10,000	$ 116	$ -
Air Stripper	Delta Cooling Towers		2005	Good		10	14	-4	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 100,000	$ 100,000	$ -
Propane Tanks (2)	*EnergyUSA Propane*		2005	Good		20	14	6	0.25	15	5	0.067	1	1	1	1	1.000	0.067	$ 4,500	$ 750	$ -
Antenna				Good		10	14	-4	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 2,000	$ 2,000	$ -
Power Distribution	*Siemens?*		2005	Good		20	14	6	0.25	15	5	0.067	1	1	1	1	1.000	0.067	$ 5,000	$ 833	$ -
Control Panel	Electrical Installations		2005	Good		20	14	6	0.25	15	5	0.067	1	1	1	1	1.000	0.067	$ 15,000	$ 2,500	$ -
Heater (3)	Reznor		2005	Good		10	14	-4	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 2,000	$ 2,000	$ -
Sample Sink			2005	Good		30	14	16	0.25	22.5	7.5	0.044	1	1	1	1	1.000	0.044	$ 500	$ 31	$ -
Hot Water Heater	A.O. Smith		2005	Poor	Does not work	10	14	-4	0.75	2.5	-2.5	0.400	1	1	1	1	1.000	0.400	$ 1,000	$ 1,000	$ 1,000
Fire Alarm System	Fire-lite	*MS-4?*	2005	Fair	Does not call fire dept	15	14	1	0.5	7.5	0	0.133	1	1	1	1	1.000	0.133	$ 2,000	$ 2,000	$ -
Pump Control Panel (4)	Square D		2005	Good		20	14	6	0.25	15	5	0.067	1	1	1	1	1.000	0.067	$ 40,000	$ 6,667	$ -
High head pump, 40 hp	*US Electrical Motors*	BF43A	2005	Good		10	14	-4	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 20,000	$ 20,000	$ -
Automatic transfer			2005	Good		15	14	1	0.25	11.25	3.75	0.089	1	1	1	1	1.000	0.089	$ 10,000	$ 10,000	$ -
Lighting			2005	Good		20	14	6	0.25	15	5	0.067	1	1	1	1	1.000	0.067	$ 1,000	$ 167	$ -
Plumbing			2005	Fair		30	14	16	0.5	15	0	0.067	1	1	1	1	1.000	0.067	$ 20,000	$ 1,250	$ -
Chem. Injection			2005	Good	chlorine + caustic	5	14	-9	0.25	3.75	1.25	0.267	1	1	1	1	1.000	0.267	$ 10,000	$ 10,000	$ 10,000
Pressure Gauge			2005	Good		5	14	-9	0.25	3.75	1.25	0.267	1	1	1	1	1.000	0.267	$ 500	$ 500	$ 500
Piping			2005	Fair	rusting @ chem injection	35	14	21	0.5	17.5	0	0.057	1	1	1	1	1.000	0.057	$ 15,000	$ 714	$ -
Eye wash	*Haws*		2005	Good		20	14	6	0.25	15	5	0.067	1	1	1	1	1.000	0.067	$ 1,000	$ 167	$ -
PRV	*ValMatic*		2005	Good		35	14	21	0.25	26.25	8.75	0.038	1	1	1	1	1.000	0.038	$ 5,000	$ 238	$ -
Flow Meter			2005	Good		10	14	-4	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 5,000	$ 5,000	$ -
Chlorine System			2005	Good		10	14	-4	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 15,000	$ 15,000	$ -
Caustic System			2005	Good	500 gal bulk, 55 gal day	10	14	-4	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 15,000	$ 15,000	$ -
Gas piping			2005	Good	propane	50	14	36	0.25	37.5	12.5	0.027	1	1	1	1	1.000	0.027	$ 5,000	$ 139	$ -
UPS	*APC*	*Scheider Electric?*	2017	Good		13	2	11	0.25	9.75	3.25	0.103	1	1	1	1	1.000	0.103	$ 500	$ 45	$ -
100 KW Generator	Kohler		2005	Good		20	14	6	0.25	15	5	0.067	1	1	1	1	1.000	0.067	$ 75,000	$ 12,500	$ -
Chem. Analyzer	HACH		2005	Good		5	14	-9	0.25	3.75	1.25	0.267	1	1	1	1	1.000	0.267	$ 5,000	$ 5,000	$ 5,000
MCC	*EI?*		2005	Good		30	14	16	0.25	22.5	7.5	0.044	1	1	1	1	1.000	0.044	$ 20,000	$ 1,250	$ -
																				Capital Improvement Plan Cost Total	**$ 16,500**

Location: Oasis Booster Pump Station **Date Inspected:** 9/16/2019 **Current Year:** 2019

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments	Original Use	Age	Remaining Life	Condition Factor	EvRUL	EcRUL	Vulnerability	Public/Employee Safety	Financial Impact	Environment/Regulatory	Customer Service	Overall Criticality	Risk	Cost ($)	Cost/Year	CIP
Building	-		2017	"New"		30	2	28	0	30	15	0.033	4	4	1	1	2.500	0.083	$ 100,000	$ 3,571	$ -
Roof	-		2017	"New"		25	2	23	0	25	12.5	0.040	1	1	1	1	1.000	0.040	$ 15,000	$ 652	$ -
Doors	-		2017	"New"		100	2	98	0	100	50	0.010	1	1	1	1	1.000	0.010	$ 5,000	$ 51	$ -
Pumps, 10 hp (3)	*GRUNDFOS*	B96419551P217210002	2017	"New"		10	2	8	0	10	5	0.100	4	4	4	7	4.600	0.460	$ 30,000	$ 3,750	$ 3,750
Fire pump, 60 hp	*UL*	*<Patterson*	2017	"New"		25	2	23	0	25	12.5	0.040	7	4	4	7	5.500	0.220	$ 50,000	$ 2,174	$ -
Fire pump tran. Switch	UL	*Firetrol? ASCO?*	2017	"New"		20	2	18	0	20	10	0.050	7	1	4	7	4.900	0.245	$ 10,000	$ 556	$ 556
Fire pump controller	UL	*Firetrol? ASCO?*	2017	"New"		20	2	18	0	20	10	0.050	7	4	4	7	5.500	0.275	$ 15,000	$ 833	$ 833
SCADA	HighTideTech		2017	"New"		5	2	3	0	5	2.5	0.200	4	4	1	4	3.100	0.620	$ 10,000	$ 3,333	$ 3,333
Alarm	SigCom		2017	"New"		7	2	5	0	7	3.5	0.143	4	1	1	1	1.900	0.271	$ 2,000	$ 400	$ 400
Alarm Control Panel	Honeywell		2017	"New"		20	2	18	0	20	10	0.050	4	1	1	1	1.900	0.095	$ 2,000	$ 111	$ -
Control Panel	Flo-pak		2017	"New"		20	2	18	0	20	10	0.050	4	4	1	4	3.100	0.155	$ 15,000	$ 833	$ -
Flow Meter	Flo-Cat	*Instrumart?*	2017	"New"		10	2	8	0	10	5	0.100	1	1	1	4	1.600	0.160	$ 2,000	$ 250	$ -
Heater			2017	"New"	electric	10	2	8	0	10	5	0.100	1	1	1	1	1.000	0.100	$ 500	$ 63	$ -
Check Valves			2017	"New"		35	2	33	0	35	17.5	0.029	1	1	1	1	1.000	0.029	$ 7,500	$ 227	$ -
Gate Valves	*Giacomini*		2017	"New"		35	2	33	0	35	17.5	0.029	1	1	1	1	1.000	0.029	$ 5,000	$ 152	$ -
Piping			2017	"New"		35	2	33	0	35	17.5	0.029	1	4	1	4	2.200	0.063	$ 10,000	$ 303	$ -
Skid	Flo-pak		2017	"New"		8	2	6	0	8	4	0.125	1	1	1	1	1.000	0.125	$ 1,500	$ 250	$ -
Pneumatic Tank	Wessels		2017	Good	not operational	10	2	8	0.25	7.5	2.5	0.133	1	1	1	4	1.600	0.213	$ 1,000	$ 125	$ -
Generator	Generac		2017	"New"	water + sewer	20	2	18	0	20	10	0.050	4	4	4	7	4.600	0.230	$ 100,000	$ 5,556	$ 5,556
Auto Transfer Switch	Generac		2017	"New"		20	2	18	0	20	10	0.050	4	1	4	7	4.000	0.200	$ 15,000	$ 833	$ -
Lighting			2017	"New"		20	2	18	0	20	10	0.050	1	4	1	1	1.600	0.080	$ 1,000	$ 56	$ -
Transformer	Eaton	*480 Z 208*	2017	"New"		20	2	18	0	20	10	0.050	4	4	1	4	3.100	0.155	$ 5,000	$ 278	$ -
Power Distribution	*Square D*		2017	"New"		20	2	18	0	20	10	0.050	4	4	1	4	3.100	0.155	$ 10,000	$ 556	$ -
Antenna			2017	"New"		10	2	8	0	10	5	0.100	1	1	1	1	1.000	0.100	$ 1,000	$ 125	$ -
																		Capital Improvement Plan Cost Total		$	**14,428**

Location: Sharlene Tank **Date Inspected:** 9/16/2019 **Current Year: 2019** 2019

*no emergency backup power

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments	Original Useful Life	Age	Remaining Life	Condition Factor	EvRUL	EcRUL	Vulnerability	Public/Employee Safety	Financial Impact	Environment/Regulatory	Customer Service	Overall Criticality	Risk	Cost ($)	Cost/Year	CIP
Tank			2001	Good	concrete, difficult to drain	30	18	12	0.25	22.5	7.5	0.044	4	10	4	4	5.200	0.231	$ 750,000	$ 62,500	$ 62,500
Hydrant	MH		2001	Fair		40	18	22	0.5	20	0	0.050	4	1	1	1	1.900	0.095	$ 5,000	$ 227	$ -
Antenna	-			Good		10	18	-8	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 1,000	$ (125)	$ -
Electrical Service	Schlumberger		2001	Fair		20	18	2	0.5	10	0	0.100	4	4	1	4	3.100	0.310	$ 2,500	$ 1,250	$ 1,250
Sampling port			2019	New		20	18	2	#N/A	#N/A	#N/A	#N/A	1	1	4	4	2.500	#N/A	$ 1,000	$ 500	$ -
Pressure transmitter		0 - 22 PSI; 0-50 ft	2001	Good		7	18	-11	0.25	5.25	1.75	0.190	4	1	1	4	2.500	0.476	$ 1,000	$ 1,000	$ 1,000
Pressure Gauge	*WIKA*		2001	Good		5	18	-13	0.25	3.75	1.25	0.267	4	1	1	4	2.500	0.667	$ 500	$ 500	$ 500
Altitude valve	*ROSS Valve*		2001	Fair		15	18	-3	0.5	7.5	0	0.133	4	4	1	4	3.100	0.413	$ 5,000	$ 5,000	$ 5,000
Hatch			2001	Fair		30	18	12	0.5	15	0	0.067	4	1	1	1	1.900	0.127	$ 2,000	$ 167	$ -
Control panel	*Electrical Installations*		2001	Fair		20	18	2	0.5	10	0	0.100	4	4	1	4	3.100	0.310	$ 15,000	$ 7,500	$ 7,500
Power Distribution	*EI?*		2001	Fair		20	18	2	0.5	10	0	0.100	4	4	1	4	3.100	0.310	$ 5,000	$ 2,500	$ 2,500
Check valve	*ValMatic*		2001	Fair		35	18	17	0.5	17.5	0	0.057	1	1	1	1	1.000	0.057	$ 7,500	$ 441	$ -
Overflow			2001	Fair		30	18	12	0.5	15	0	0.067	1	1	1	1	1.000	0.067	$ 10,000	$ 833	$ -
Ladder			2001	Fair		100	18	82	0.5	50	0	0.020	1	1	1	1	1.000	0.020	$ 2,000	$ 24	$ -
																			Capital Improvement Plan Cost Total	**$ 80,250**

Location: WTP **Date Inspected:** 9/16/2019 **Current Year: 2019** 2019

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments	Original Usef	Age	Remaining Life	Condition Factor	EvRUL	EcRUL	Vulnerability	Public/Employee Safety	Financial Impact	Environment/Regulatory	Customer Service	Overall Criticality	Risk	Cost ($)	Cost/Year	CIP
Building	-		1990	Good		30	29	1	0.25	22.5	7.5	0.044	4	10	7	4	6.100	0.271	$ 300,000	$ 300,000	$ 300,000
Roof	-			Good	new 5 years ago	25	5	20	0.25	18.75	6.25	0.053	4	7	7	4	5.500	0.293	$ 75,000	$ 3,750	$ 3,750
Doors	-		1990	Good		100	29	71	0.25	75	25	0.013	1	1	1	1	1.000	0.013	$ 15,000	$ 211	$ -
MCC	Siemens		1990	Fair		30	29	1	0.5	15	0	0.067	7	4	4	7	5.500	0.367	$ 25,000	$ 25,000	$ 25,000
SCADA	*Allen Bradley*		1990	Fair		5	29	-24	0.5	2.5	0	0.400	7	4	4	7	5.500	2.200	$ 10,000	$ 10,000	$ 10,000
Transformer	*HEVI-DUTY*		2009	Good		20	10	10	0.25	15	5	0.067	7	4	4	7	5.500	0.367	$ 5,000	$ 500	$ 500
Electrical Panels			1990	Fair		20	29	-9	0.5	10	0	0.100	7	4	4	7	5.500	0.550	$ 25,000	$ 25,000	$ 25,000
Generator	Consolidated Power	<?	1990	Good	200 KW	20	29	-9	0.25	15	5	0.067	7	7	4	7	6.100	0.407	$ 250,000	$ 250,000	$ 250,000
Ventilation, gen. room			1990	Good		15	29	-14	0.25	11.25	3.75	0.089	7	1	7	4	5.200	0.462	$ 15,000	$ 15,000	$ 15,000
ATS	Russ Electric		1990	Good		20	29	-9	0.25	15	5	0.067	7	4	4	7	5.500	0.367	$ 10,000	$ 10,000	$ 10,000
Generator-room heater	EUH-3		1990	Good	*electric?*	10	29	-19	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 1,000	$ 1,000	$ -
Nat. gas piping				Good		50	29	21	0.25	37.5	12.5	0.027	4	1	1	4	2.500	0.067	$ 2,000	$ 95	$ -
Backwash panel	Hungerford + Terry		1990	Good	newer HMI ~5 years	20	5	15	0.25	15	5	0.067	4	1	4	7	4.000	0.267	$ 5,000	$ 333	$ 333
Filters (3)	*Hungerford + Terry*			Good	rebuilt ~5 years ago; green sand +	10	5	5	0.25	7.5	2.5	0.133	7	7	7	10	7.600	1.013	$ 75,000	$ 15,000	$ 15,000
Gate valves			2014	Good	12"	35	5	30	0.25	26.25	8.75	0.038	4	1	1	4	2.500	0.095	$ 50,000	$ 1,667	$ -
Check valves			2014	Good	12"	35	5	30	0.25	26.25	8.75	0.038	4	1	1	4	2.500	0.095	$ 20,000	$ 667	$ -
Water Booster Pump	???		1990	Poor	doesn't work	10	29	-19	0.75	2.5	-2.5	0.400	7	4	7	10	7.000	2.800	$ 20,000	$ 20,000	$ 20,000
Low Pressure Air Blower	*Reznor*		1990	Good		10	29	-19	0.25	7.5	2.5	0.133	4	4	7	10	6.100	0.813	$ 30,000	$ 30,000	$ 30,000
Piping				Good		35	29	6	0.25	26.25	8.75	0.038	7	4	4	7	5.500	0.210	$ 50,000	$ 8,333	$ -
Pressure gauges				Poor	don't work	5	4	1	0.75	1.25	-1.25	0.800	4	1	1	4	2.500	2.000	$ 2,500	$ 2,500	$ 2,500
Chemical analyzers	*HACH*		2003	Poor	already bought new ones	5	16	-11	0.75	1.25	-1.25	0.800	7	1	7	4	5.200	4.160	$ 10,000	$ 10,000	$ 10,000
Chlorine system	*HACH? Comments?*			Good	new tank 2018 bulk; new transfer pumps	10	1	9	0.25	7.5	2.5	0.133	7	4	7	7	6.400	0.853	$ 20,000	$ 2,222	$ 2,222
Hydroxide system	*HACH? Comments?*			Good	new tank 2018, new transfer pump	10	1	9	0.25	7.5	2.5	0.133	7	4	7	7	6.400	0.853	$ 20,000	$ 2,222	$ 2,222
Raw Water flow meter			2014	Good		10	5	5	0.25	7.5	2.5	0.133	4	1	4	4	3.400	0.453	$ 2,500	$ 500	$ 500
Emergency shower				Good		20	29	-9	0.25	15	5	0.067	7	1	7	1	4.600	0.307	$ 500	$ 500	$ 500
Lighting				Fair		20	29	-9	0.5	10	0	0.100	4	1	1	1	1.900	0.190	$ 8,000	$ 8,000	$ -
Fire Alarm				Good		15	29	-14	0.25	11.25	3.75	0.089	4	1	4	1	2.800	0.249	$ 3,500	$ 3,500	$ 3,500
Ventilation				Fair	air handling unit winter mode does not work	15	29	-14	0.5	7.5	0	0.133	4	4	4	4	4.000	0.533	$ 10,000	$ 10,000	$ 10,000
Heater (2)	*Modine*		*2019*	Good	new	10	0	10	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 2,500	$ 250	$ -

Capital Improvement Plan Cost Total $ 736,028

Location: WTP UV Building **Date Inspected:** 9/16/2019 **Current Year: 2019** 2019

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments	Original Use	Age	Remaining Life	Condition Factor	EvRUL	EcRUL	Vulnerability	Public/Employee Safety	Financial Impact	Environment/Regulatory	Customer Service	Overall Criticality	Risk	Cost ($)	Cost/Year	CIP
Building	-		2003	Poor	ceiling cracks + leaks, new floor	30	16	14	0.75	7.5	-7.5	0.133	4	10	7	4	6.100	0.813	$ 150,000	$ 10,714	$ 10,714
Door	-		2003	Good		100	16	84	0.25	75	25	0.013	1	1	1	1	1.000	0.013	$ 10,000	$ 119	$ -
Roof	-		2003	Poor	leaking	25	16	9	0.75	6.25	-6.25	0.160	4	7	7	4	5.500	0.880	$ 50,000	$ 5,556	$ 5,556
Heater	Rinnai		2003	Poor	does not work	10	16	-6	0.75	2.5	-2.5	0.400	1	1	1	1	1.000	0.400	$ 3,000	$ 3,000	$ 3,000
Chemical Analyzes	HACH		2003	Poor	valves don't work; pH, turbidimeter, chlorine	5	16	-11	0.75	1.25	-1.25	0.800	7	1	7	4	5.200	4.160	$ 15,000	$ 15,000	$ 15,000
AC	Mitsubishi			Fair	leaks	15	16	-1	0.5	7.5	0	0.133	1	1	1	1	1.000	0.133	$ 15,000	$ 15,000	$ -
Eye wash	*Haws*		2003	Fair	doesn't send alarm	20	16	4	0.5	10	0	0.100	7	1	7	1	4.600	0.460	$ 1,000	$ 250	$ 250
UV Panel	Wedeco		2003	Good		20	16	4	0.25	15	5	0.067	4	4	7	7	5.500	0.367	$ 5,000	$ 1,250	$ 1,250
Pump Control Panel	EI		2003	Good		20	16	4	0.25	15	5	0.067	4	4	4	7	4.600	0.307	$ 15,000	$ 3,750	$ 3,750
MCC	Siemens		2003	Good	UFDs replaced in last 5 years	30	5	25	0.25	22.5	7.5	0.044	7	4	4	7	5.500	0.244	$ 20,000	$ 800	$ 800
Ventilation			2003	Fair		15	16	-1	0.5	7.5	0	0.133	4	4	4	1	3.400	0.453	$ 10,000	$ 10,000	$ 10,000
Backwash pump, 15 hp	Floway *(GE)*	*5KS254DAC6021*	2003	Good		10	16	-6	0.25	7.5	2.5	0.133	4	4	7	7	5.500	0.733	$ 15,000	$ 15,000	$ 15,000
Flow meter	Magflo Danfoss			Good		10		10	0.25	7.5	2.5	0.133	1	1	4	4	2.500	0.333	$ 2,500	$ 250	$ 250
Dehumidifier	Hi-E Dry	*this version seems discontinued*	2003	Poor	doesn't work	8	16	-8	0.75	2	-2	0.500	1	1	1	1	1.000	0.500	$ 1,000	$ 1,000	$ 1,000
Piping	*Floway?*		2003	Poor	bolts in bad shape	35	16	19	0.75	8.75	-8.75	0.114	7	4	4	7	5.500	0.629	$ 15,000	$ 789	$ 789
Air release valve (3)	Crispin	*3-3C 2" Air/Vac*	2003	Good		15	16	-1	0.25	11.25	3.75	0.089	4	1	1	4	2.500	0.222	$ 1,500	$ 15,000	$ -
High head pumps, 50 hp (2)	Floway *(GE)*	?	2003	Fair		10	16	-6	0.5	5	0	0.200	7	4	4	7	5.500	1.100	$ 50,000	$ 50,000	$ 50,000
Valve Pit			2003	Poor	seal leaks > pit with GW	30	16	14	0.75	7.5	-7.5	0.133	1	4	4	4	3.100	0.413	$ 5,000	$ 357	$ 357
Gate valves	*WATTS?*	*really a ball valve?*	2003	Fair	(2 valve replaced 2019)	35	16	19	0.5	17.5	0	0.057	4	1	1	4	2.500	0.143	$ 7,000	$ 368	$ -
Check valves	*Crispin Valve? Pic?*	*not sure where check valve is*	2003	Fair		35	16	19	0.5	17.5	0	0.057	4	1	1	4	2.500	0.143	$ 7,500	$ 395	$ -
UV Tank	Wedeco	*LBX Series UV disinfection system*		Good		5	16	-11	0.25	3.75	1.25	0.267	7	4	7	7	6.400	1.707	$ 15,000	$ 15,000	$ 15,000
Compressor	Ingersoll-Rand		2003	Good		10	16	-6	0.25	7.5	2.5	0.133	4	1	4	4	3.400	0.453	$ 1,000	$ 1,000	$ 1,000
Gas piping			2003	Good	nat. gas	50	16	34	0.25	37.5	12.5	0.027	4	1	1	4	2.500	0.067	$ 10,000	$ 294	$ -
Heater (pump room)	Reznor		2003	Good		10	16	-6	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 2,000	$ 2,000	$ -
Lighting			2003	Good		20	16	4	0.25	15	5	0.067	4	1	1	1	1.900	0.127	$ 1,500	$ 375	$ -
UV cleaning	Wedeco			Fair	starting to rust out	5	16	-11	0.5	2.5	0	0.400	7	4	7	7	6.400	2.560	$ 2,500	$ 2,500	$ 2,500
Contact tank			2003	Good	concrete, baffled	10	16	-6	0.25	7.5	2.5	0.133	7	4	7	10	7.000	0.933	$ 50,000	$ 50,000	$ 50,000
																			Capital Improvement Plan Cost Total	**$ 186,216**

Location: Maple Street **Date Inspecte** 9/16/2019 **Current Year: 2019** 2019

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments	Original Use	Age	Remaining Life	Condition Factor	EvRUL	EcRUL	Vulnerability	Public/Employee Safety	Financial Impact	Environment/Regulatory	Customer Service	Overall Criticality	Risk	Cost ($)	Cost/Year	CIP
Building	-		1996	Good	Brick	30	23	7	0.25	22.5	7.5	0.044	4	7	1	1	3.100	0.138	$ 100,000	$ 14,286	$ -
Radio				Good		7	23	-16	0.25	5.25	1.75	0.190	1	1	1	4	1.600	0.305	$ 2,000	$ 2,000	$ 2,000
Hydrants	*US Pipe*		1996	Fair		40	23	17	0.5	20	0	0.050	4	1	1	1	1.900	0.095	$ 10,000	$ 588	$ -
Doors	-		1996	Good		100	23	77	0.25	75	25	0.013	1	1	1	1	1.000	0.013	$ 10,000	$ 130	$ -
Roof	-		1996	Good		25	23	2	0.25	18.75	6.25	0.053	4	1	1	1	1.900	0.101	$ 15,000	$ 7,500	$ -
Power Distribution	Cutler-Hammer		1997	Good		20	22	-2	0.25	15	5	0.067	4	4	1	4	3.100	0.207	$ 5,000	$ 5,000	$ -
Lighting			1997	Good		20	22	-2	0.25	15	5	0.067	4	1	1	1	1.900	0.127	$ 1,500	$ 1,500	$ -
Fire Alarm	Signal Com.			Good		15	23	-8	0.25	11.25	3.75	0.089	4	1	4	1	2.800	0.249	$ 2,000	$ 2,000	$ 2,000
Transfer Switch	Kohler		1997	Good		20	22	-2	0.25	15	5	0.067	4	4	4	4	4.000	0.267	$ 5,000	$ 5,000	$ 5,000
Nat. gas piping				Good		50	23	27	0.25	37.5	12.5	0.027	4	1	1	4	2.500	0.067	$ 15,000	$ 556	$ -
Electric Unit Heaters	Qmark Marley		1997	Good	2: electrical & nat. gas	10	22	-12	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 500	$ 500	$ -
Nat. gas Unit Heaters	*Empire*		*1997*	*Good*	*2: electrical & nat. gas*	13	22	-9	0.25	9.75	3.25	0.103	1	1	1	1	1.000	0.103	$ 2,000	$ 2,000	$ -
Hydropneumatic tanks (2)	Hydrocumulator	*< Syncroflo?*	1997	Good		10	22	-12	0.25	7.5	2.5	0.133	4	1	1	4	2.500	0.333	$ 5,000	$ 5,000	$ 5,000
Pumps (3) 20 hp	*Emerson*	*G29315*	1997	Fair	no UFDS, original	10	22	-12	0.5	5	0	0.200	7	4	4	4	4.900	0.980	$ 30,000	$ 30,000	$ 30,000
Check Valves	Aurora		1997	Fair		35	22	13	0.5	17.5	0	0.057	1	1	1	1	1.000	0.057	$ 7,500	$ 577	$ -
Pumps (2) 7.5 hp	*Marathon Electric*	*8YM213TTFY7022AB L*		Fair	no UFDS, one rebuilt, one replaced	10	22	-12	0.5	5	0	0.200	7	4	4	4	4.900	0.980	$ 12,500	$ 12,500	$ 12,500
Gate Valves	*Pratt*		1997	Fair		35	22	13	0.5	17.5	0	0.057	1	1	1	1	1.000	0.057	$ 7,000	$ 538	$ -
Skid			1997	Fair	some rust	8	22	-14	0.5	4	0	0.250	1	1	1	1	1.000	0.250	$ 5,000	$ 5,000	$ 5,000
Piping			1997	Fair	welds leak, some rust	35	22	13	0.5	17.5	0	0.057	1	4	4	4	3.100	0.177	$ 15,000	$ 1,154	$ -
Pressure transmitter	*Rosemount*		1997	Fair		7	22	-15	0.5	3.5	0	0.286	1	1	1	1	1.000	0.286	$ 1,000	$ 1,000	$ 1,000
Vent			1996	Poor	motor doesn't work	12	23	-11	0.75	3	-3	0.333	1	1	1	1	1.000	0.333	$ 500	$ 500	$ 500
Exhaust fan			1996	Poor	won't close	10	23	-13	0.75	2.5	-2.5	0.400	4	1	4	1	2.800	1.120	$ 500	$ 500	$ 500
Control Panel	Liqui trol		1997	Good	HMI newer: 2014	20	22	-2	0.25	15	5	0.067	4	4	4	4	4.000	0.267	$ 15,000	$ 15,000	$ 15,000
Pressure Gauges	Liqui trol		1997	Good		5	22	-17	0.25	3.75	1.25	0.267	1	1	1	1	1.000	0.267	$ 500	$ 500	$ 500
Flow Reader	Thermo Polysonics		1997	Good		7	22	-15	0.25	5.25	1.75	0.190	1	1	1	1	1.000	0.190	$ 7,500	$ 7,500	$ -
Chart Recorder	Capital Controls		1997	Fair	Do not use	5	22	-17	0.5	2.5	0	0.400	1	1	1	1	1.000	0.400	$ 2,000	$ 2,000	$ 2,000
Bacteria Sampling Port				Poor	location @ floor drain	30	22	8	0.75	7.5	-7.5	0.133	4	1	4	1	2.800	0.373	$ 1,000	$ 125	$ 125
Kohler Engine Generator	Kohler		1997	Good		30	22	8	0.25	22.5	7.5	0.044	7	4	4	4	4.900	0.218	$ 150,000	$ 18,750	$ -
																			Capital Improvement Plan Cost Total	**$ 81,125**

Location: Well Building (2 + 2A) **Date Inspected:** 9/16/2019 **Current Year: 2019** 2019

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments	Original Useful Life	Age	Remaining Life	Condition Factor	EvRUL	EcRUL	Vulnerability	Public/Employee Safety	Financial Impact	Environment/Regulatory	Customer Service	Overall Criticality	Risk	Cost ($)	Cost/Year	CIP
Building	-			Poor	no ventilation, wall leaking	30		30	0.75	7.5	-7.5	0.133	4	4	1	1	2.500	0.333	$ 75,000	$ 2,500	$ 2,500
Roof	-			Poor		18		18	0.75	4.5	-4.5	0.222	1	1	1	1	1.000	0.222	$ 15,000	$ 833	$ -
Door	-			Poor	no door frame, rotted	50		50	0.75	12.5	-12.5	0.080	1	1	1	1	1.000	0.080	$ 5,000	$ 100	$ -
Heater				Poor		10		10	0.75	2.5	-2.5	0.400	4	4	1	4	3.100	1.240	$ 500	$ 50	$ 50
Pump, 15 hp	*US Electrical Motors*			Fair		10		10	0.5	5	0	0.200	4	4	4	4	4.000	0.800	$ 20,000	$ 2,000	$ 2,000
Piping				Poor		35		35	0.75	8.75	-8.75	0.114	4	4	1	4	3.100	0.354	$ 15,000	$ 429	$ 429
Check valve				Poor		35		35	0.75	8.75	-8.75	0.114	1	1	1	1	1.000	0.114	$ 7,500	$ 214	$ -
Gate valve			*2007*	Good		35	12	23	0.25	26.25	8.75	0.038	1	1	1	1	1.000	0.038	$ 7,000	$ 304	$ -
Power Distribution	*Eaton?*			Poor		20		20	0.75	5	-5	0.200	4	4	1	4	3.100	0.620	$ 10,000	$ 500	$ 500
Pressure gauge				Poor		5		5	0.75	1.25	-1.25	0.800	1	1	1	1	1.000	0.800	$ 500	$ 100	$ 100
Electrical				Poor		7		7	0.75	1.75	-1.75	0.571	4	4	1	4	3.100	1.771	$ 15,000	$ 2,143	$ 2,143
Flow meter (2)	Krohne			Poor		10		10	0.75	2.5	-2.5	0.400	1	1	1	1	1.000	0.400	$ 5,000	$ 500	$ 500
Lighting				Poor		20		20	0.75	5	-5	0.200	1	1	1	1	1.000	0.200	$ 1,500	$ 75	$ -
																			Capital Improvement Plan Cost Total	**$**	**8,221**

Location: Well Building (1, 1A + 5) **Date Inspected:** 9/16/2019 **Current Year: 2019** 2019

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments	Original Use	Age	Remaining Life	Condition Factor	EvRUL	EcRUL	Vulnerability	Public/Employee Safety	Financial Impact	Environment/Regulatory	Customer Service	Overall Criticality	Risk	Cost ($)	Cost/Year	CIP
Building	-		1964	Poor	floor in bad shape; original building, brick, no vent	30	55	-25	0.75	7.5	-7.5	0.133	4	4	1	1	2.500	0.333	$ 100,000	$ 100,000	$ 100,000
Roof	-		1964	Poor	vegetation growing on roof	18	55	-37	0.75	4.5	-4.5	0.222	1	1	1	1	1.000	0.222	$ 15,000	$ 15,000	$ -
Door	-		1964	Poor		100	55	45	0.75	25	-25	0.040	1	1	1	1	1.000	0.040	$ 2,500	$ 56	$ -
Piping			2000	Good		35	19	16	0.25	26.25	8.75	0.038	4	4	1	4	3.100	0.118	$ 15,000	$ 938	$ -
Well Pump, 40 hp	*NEMA Premium*			Fair	don't use	10	11	-1	0.5	5	0	0.200	4	4	4	4	4.000	0.800	$ 30,000	$ 30,000	$ 30,000
Flow Meters	Krohne		2003	Good		10	16	-6	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 2,500	$ 2,500	$ -
Pressure gauge				Good		5	6	-1	0.25	3.75	1.25	0.267	1	1	1	1	1.000	0.267	$ 500	$ 500	$ 500
Heater				Good		10	5	5	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 500	$ 100	$ -
Gate valves				Good		35	55	-20	0.25	26.25	8.75	0.038	1	1	1	1	1.000	0.038	$ 7,000	$ 7,000	$ -
Power Distribution	*Siemens?*			Fair		20	55	-35	0.5	10	0	0.100	4	4	1	4	3.100	0.310	$ 5,000	$ 5,000	$ 5,000
Lighting				Poor		20	55	-35	0.75	5	-5	0.200	1	1	1	1	1.000	0.200	$ 1,000	$ 1,000	$ -
Electrical				Fair		7	55	-48	0.5	3.5	0	0.286	4	4	1	4	3.100	0.886	$ 15,000	$ 15,000	$ 15,000
Check Valve	*Layne?*			Poor	needs replacement, leaks	35	55	-20	0.75	8.75	-8.75	0.114	1	1	1	1	1.000	0.114	$ 7,500	$ 7,500	$ -
																			Capital Improvement Plan Cost Total		**$ 150,500**

Location: Walnut Hill Booster **Date Inspected:** 9/16/2019 **Current Year: 2019** 2019

Asset	Manufacturer	Model No.	Install Year	Condition	Additional Comments	Original Useful Life	Age	Remaining Life	Condition Factor	EvRUL	EcRUL	Vulnerability	Public/Employee Safety	Financial Impact	Environment/Regulatory	Customer Service	Overall Criticality	Risk	Cost ($)	Cost/Year	CIP
Building	-		2004	Good	Some siding needs replacement,	30	15	15	0.25	22.5	7.5	0.044	4	7	1	1	3.100	0.138	$ 100,000	$ 6,667	$ -
Radio				Good	Antenna replaced 2017	7	2	5	0.25	5.25	1.75	0.190	1	1	1	4	1.600	0.305	$ 2,000	$ 400	$ 400
Electrical Service	GE			Good		7	15	-8	0.25	5.25	1.75	0.190	4	4	4	7	4.600	0.876	$ 5,000	$ 5,000	$ 5,000
Power Distribution	Square D			Good		20	15	5	0.25	15	5	0.067	4	4	1	4	3.100	0.207	$ 10,000	$ 2,000	$ -
Lighting				Good		20	15	5	0.25	15	5	0.067	4	1	1	1	1.900	0.127	$ 1,000	$ 200	$ -
Engine Generator	Cummins	GGKC-5668721	2004	Good	can draw in snow from outside and covers main switch, runs on propane	20	15	5	0.25	15	5	0.067	7	4	4	4	4.900	0.327	$ 75,000	$ 15,000	$ 15,000
Transfer Switch	Cummins			Good		20	15	5	0.25	15	5	0.067	4	4	4	4	4.000	0.267	$ 5,000	$ 1,000	$ 1,000
Exhaust Fans				Good	Need new exhaust fan (taken out)	10	15	-5	0.25	7.5	2.5	0.133	4	1	4	1	2.800	0.373	$ 2,500	$ 2,500	$ 2,500
Heating	Rinnai	5564		Good	won't turn on after generator turns on have to manually restart	10	15	-5	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	$ 3,000	$ 3,000	$ -
Control Panels (5)	Flo-pak Allen Bradley	APB-VS-OS-P	2004	Good	New HMI, Panel for fire pump won't close, have to go into panel to physically hit reset	20	15	5	0.25	15	5	0.067	4	4	4	4	4.000	0.267	*$ 25,000*	$ 5,000	$ 5,000
Pumps, 10 hp (3)	*WEG*	01036EP3E215JM	2004	Good	Pumps have VFDs	10	15	-5	0.25	7.5	2.5	0.133	7	4	4	4	4.900	0.653	$ 45,000	$ 45,000	$ 45,000
Pump, 75 hp (1)	*WEG*	07518EP3E365TS	2004	Good		10	15	-5	0.25	7.5	2.5	0.133	7	4	4	4	4.900	0.653	$ 50,000	$ 50,000	$ 50,000
Flow Meter	*ThermoPolysonics?*			Good		10	15	-5	0.25	7.5	2.5	0.133	1	1	1	1	1.000	0.133	*$ 5,000*	$ 5,000	$ -
Pressure Gauges				Good		5	15	-10	0.25	3.75	1.25	0.267	1	1	1	1	1.000	0.267	$ 500	$ 500	$ 500
Piping				Good		35	15	20	0.25	26.25	8.75	0.038	1	4	4	4	3.100	0.118	$ 15,000	$ 750	$ -
Check Valves	*Aurora?*			Good	Fire check valve replaced 2018	35	15	20	0.25	26.25	8.75	0.038	1	1	1	1	1.000	0.038	$ 7,500	$ 375	$ -
Gate Valves	*NIBCO?*			Good		35	15	20	0.25	26.25	8.75	0.038	1	1	1	1	1.000	0.038	$ 7,000	$ 350	$ -
Roof	-		2004	Good	15 years old	25	15	10	0.25	18.75	6.25	0.053	4	1	1	1	1.900	0.101	$ 15,000	$ 1,500	$ -
Doors	-			Good	*metal*	100	15	85	0.25	75	25	0.013	1	1	1	1	1.000	0.013	$ 5,000	$ 59	$ -
Fire Alarm	SigCom		2004	Good	Radio	16	15	1	0.25	12	4	0.083	4	1	4	1	2.800	0.233	$ 2,000	$ 2,000	$ 2,000
Skid			2004	Fair	some rusting	8	15	-7	0.5	4	0	0.250	1	1	1	1	1.000	0.250	$ 5,000	$ 5,000	$ 5,000
Blow Off Valves	*NIBCO?*		2004	Good		16	15	1	0.25	12	4	0.083	1	1	1	1	1.000	0.083	$ 2,500	$ 2,500	$ -
Pressure Transmitters	Foxboro		2004	Good		7	15	-8	0.25	5.25	1.75	0.190	1	1	1	1	1.000	0.190	$ 2,500	$ 2,500	$ -
Chart Recorder	ABB		2004	-	doesn't work but not needed	5	15	-10	#N/A	#N/A	#N/A	#N/A	1	1	1	1	1.000	#N/A	*$ 2,000*	$ 2,000	$ -
UPS	*APC*	*Scheider Electric?*		Good	newer, has been replaced	13	15	-2	0.25	9.75	3.25	0.103	4	1	1	4	2.500	0.256	$ 500	$ 500	$ 500
Gas Piping			2004	Good		50	15	35	0.25	37.5	12.5	0.027	4	1	1	4	2.500	0.067	$ 2,500	$ 71	$ -
HVAC	Electricalstatic Shield	*SquareD?*	2004	Good	no AC	16	15	1	0.25	12	4	0.083	1	1	1	1	1.000	0.083	$ 15,000	$ 15,000	$ -
Propane Tank	*Propane Plus*			Good		20	15	5	0.25	15	5	0.067	1	1	1	4	1.600	0.107	$ 4,500	$ 900	$ -
Hydrants			2003	Good		40	15	25	0.25	30	10	0.033	4	1	1	1	1.900	0.063	$ 10,000	$ 400	$ -
PRV (outside building)				Good	org. to station	35	15	20	0.25	26.25	8.75	0.038	1	1	1	1	1.000	0.038	$ 5,000	$ 250	$ -
																			Capital Improvement Plan Cost Total		**$ 131,900**