

# Asset Management Plan Water and Wastewater Treatment Facilities



**October 9, 2014**

**BOLTON & MENK, INC.**  
Consulting Engineers & Surveyors

## Objectives of the Presentation

- Discuss Purpose of an Asset Management Plan
- Summarize Water Treatment Facility Asset Needs
- Summarize Wastewater Treatment Facility Asset Needs

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## **Asset Management Plan - Benefits**

- Better Decision-Making Regarding:
  - Maintenance of Existing Assets
  - Rehabilitation of Existing Assets
  - Replacement of Assets
  - Acquisition of New Assets
  - Operation of the System
  - Financing Long-Term Capital Improvements

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## **Asset Management Plan**

- Core Components Include Developing:
  - Level of Service
  - Asset Inventory
  - Critical Assets
  - Life Cycle Cost
  - Long-Term Financing Plan

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## Water Treatment Facility Existing Conditions

- Built in 2008
- Structures and Equipment in Good Condition
- Wells Have Adequate Capacity
- Meeting Water Quality Standards and Goals

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## Water System Component Summary

Table 2.1 Well and Treatment Capacity Summary		
Component	Hydraulic Capacity <sup>1</sup> Gpm	Supply Capacity <sup>2</sup> gallons per day
<b>Wells</b>		
Well No. 1	420	504,000
Well No. 2	1,200	1,440,000
Well No. 3	1,200	1,440,000
<b>Total Well Firm Capacity</b>		<b>1,944,000</b>
<b>Treatment Plant</b>	2,850	<b>3,420,000</b>
<b>Storage</b>		
Tower		750,000
<b>Total Storage</b>		<b>750,000</b>
Note <sup>1</sup> Hydraulic capacity refers to the instantaneous pumping or treatment capacity		
Note <sup>2</sup> Supply capacity refers to the daily well or treatment capacity when operated at 20 hours per day.		
Note <sup>3</sup> Water treatment plant design capacity is 2,850 gpm (3.42 MGD at 20 hours per day)		

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## Water Treatment Facility High Criticality Assets

Table 2.3  
Water Treatment Facility – Assets with Highest Criticality (30-100)

Criticality	Asset Name
64	Chlorine Generation System
36	6" pressure Relief Valve in Water Plant
32	Brine Tank 1
32	Brine Tank 2
32	Backwash Supply Flow Meter

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## Water System Capital Improvement Plan

Table 2.4  
Water Treatment Facility – Capital Improvement Plan

Year	Budget	Description
2015	\$200,000	Additional Chlorine Generation System
2021	\$300,000	Rebuild Filter 1 Underdrain
2022	\$300,000	Rebuild Filter 2 Underdrain
2023	\$300,000	Rebuild Filter 3 Underdrain
2024	\$300,000	Rebuild Filter 4 Underdrain

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## Wastewater Treatment Facility Existing Conditions

- Built in 1996
- Some Structures Require Immediate Repair
- NPDES Permit Expires in 2017
- Meeting Current NPDES Permit Requirements

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## Wastewater Treatment Facility - Capacity

Table 3.1  
Wastewater Treatment Plant Rated Capacity<sup>1</sup>

Parameter	Rated Capacity
Flow	
Average Wet Weather	0.657 MGD
Carbonaceous Biochemical Oxygen Demand (CBOD)	
Average	1,101 lbs/d
Maximum	1,652 lbs/d
Total Suspended Solids	
Average	1,326 lbs/d
Maximum	1,989 lbs/d
Note <sup>1</sup>	Rated capacity as per NPDES Permit 0023795

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## Wastewater Treatment System High Criticality Assets

Table 3.4  
Wastewater Treatment Facility – Assets with Highest Criticality (30-100)

Criticality	Asset Name
80	Main Lift Station Pump No. 1
80	Main Lift Station Pump No. 2
64	Main Lift Station Grit Pump
56	Blower No. 2
56	Blower No. 3
56	Blower No. 4
56	Blower No. 5
42	Filter No. 1
42	Filter No. 2
36	Trojan UV Disinfection System

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## Wastewater Treatment Facility Capital Improvement Plan

Table 3.5  
Wastewater Treatment Facility – Capital Improvement Plan

Year	Budget	Description
2015	\$1,500,000	New fine screen and grit removal equipment. Construct new pretreatment structure at the WWTP.
2015	\$600,000	Main Lift Station/Demolition
2015	\$80,000	Diffuser Replacement.
2015	\$100,000	Aerated pond blower replacement.
2016	\$120,000	Aerated pond diffuser replacement.
2017	\$500,000	Filter rehabilitation.
2025	\$500,000	Clarifier rehabilitation.

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# Wastewater Treatment Facility Preventative Maintenance Plan

Table 3.6  
Wastewater Treatment Facility – Annual Allocation Plan

Year	Budget	Description
2015	\$1,500,000	New fine screen and grit removal equipment. Construct new pretreatment structure at the WWTP.
2015	\$800,000	Construct a new main lift station/wetwell. New submersible pumps for the lift station. Demolition of the existing wetwell. Remove equalization basin from service.  Aerated pond blower replacement. Preventative Maintenance Plan
2016	\$140,000	Aerated pond diffuser replacement.
2017	\$520,000	Filter rehabilitation.  Preventative Maintenance Plan
2018	\$20,000	Preventative Maintenance Plan
2019	\$20,000	Preventative Maintenance Plan
2020	\$20,000	Preventative Maintenance Plan
2021	\$20,000	Preventative Maintenance Plan
2022	\$20,000	Preventative Maintenance Plan
2023	\$20,000	Preventative Maintenance Plan
2024	\$20,000	Preventative Maintenance Plan
2025	\$520,000	Clarifier rehabilitation. Preventative Maintenance Plan

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## QUESTIONS?

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