



2022 Compliance Maintenance Annual Report

June 15th 2023

Madison Metropolitan Sewerage District



Legal Requirements

Wisconsin State Legislature

Department of Natural Resources (NR)

Statute Ch. 283- Pollution Discharge Elimination

Implemented by NR 208

Wisconsin Pollution Discharge Elimination System (WPDES) Permit Requirement

Approval of report and resolution by governing body



Purpose

Protects Public Health and the Environment

Initiates action to avoid water quality degradation

Serves as an Educational Tool

Promotes owner awareness and responsibility for treatment needs

Identifies Improvement Areas

Maximizes useful life and performance through improved operations and maintenance

Initiates New Projects

Promotes formal planning, design and construction

NR 208.01 Purpose. This chapter implements ch. 283, Stats., encourages and, where necessary, requires owners of publicly and privately owned domestic wastewater treatment works to take necessary actions to avoid water quality degradation, and prevent violations of WPDES permit effluent limits and conditions. This chapter promotes an owner's awareness and responsibility for wastewater conveyance and treatment needs; maximizes the useful life and performance of treatment works through improved operation and maintenance; and initiates formal planning, design and construction to prevent WPDES permit violations.



Report Content

- (5) CONTENT.** The CMAR shall include an evaluation of the following sections and information, as it applies to a specific treatment works and as determined by the department under s. NR 208.05 (1):
- (a) Influent flow and loading.
 - (b) Effluent quality and plant performance (BOD/CBOD).
 - (c) Effluent quality and plant performance (total suspended solids-TSS).
 - (d) Effluent quality and plant performance (ammonia-NH3).
 - (e) Effluent quality and plant performance (phosphorus-P).
 - (f) Effluent quality and plant performance (total nitrogen-total N).
 - (g) Groundwater quality.
 - (h) Ponds and lagoon leakage.
 - (i) Biosolids quality and management.
 - (j) Staffing and preventative maintenance.
 - (k) Operator certification and education.
 - (L) Financial management.
 - (m) Sanitary sewer collection systems.
 - (n) Grading summary.
 - (o) Resolution or owner statement.

Report automatically generates section grades

SCORE	GRADE	GRADE POINTS	GRADE MEANING	RESPONSE RANGE
91-100	A	4	Good	Voluntary
81-90	B	3	Satisfactory	Voluntary
71-80	C	2	Marginal	Recommendation
61-70	D	1	Poor	Action
<61	F	0	Fail	Action

*NSWWTP omits total nitrogen, groundwater quality, and ponds and lagoon leakage sections



2022 Grade Summary

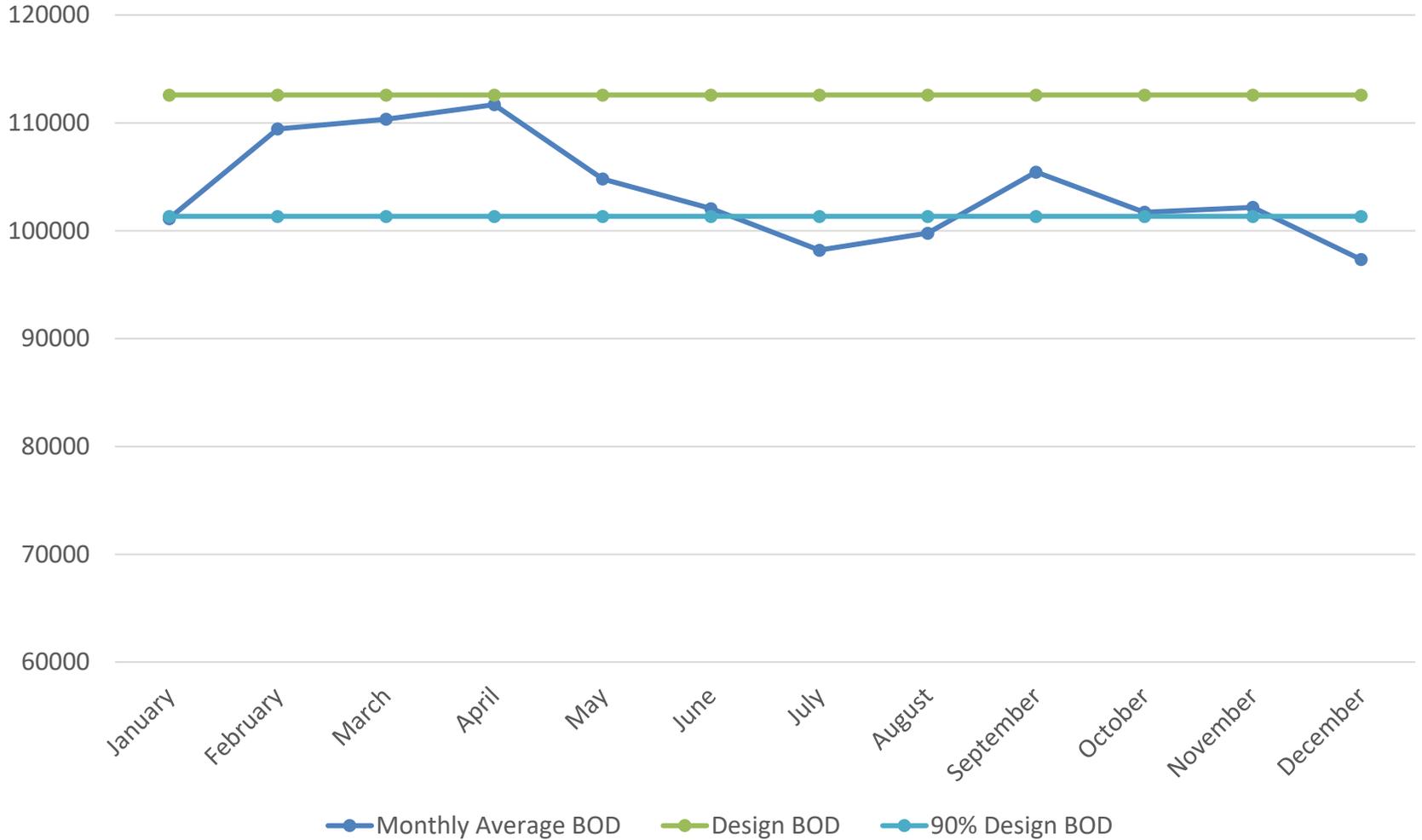
Grade	Section
C	Influent Flow and Loadings
A	Effluent Quality: Biochemical Oxygen Demand
A	Effluent Quality: Total Suspended Solids
A	Effluent Quality: Ammonia
A	Effluent Quality: Phosphorus
D	Biosolids Quality and Management
A	Staffing and Preventative Maintenance
A	Operator Certification and Education
A	Financial Management
A	Collection Systems

GPA: 3.43



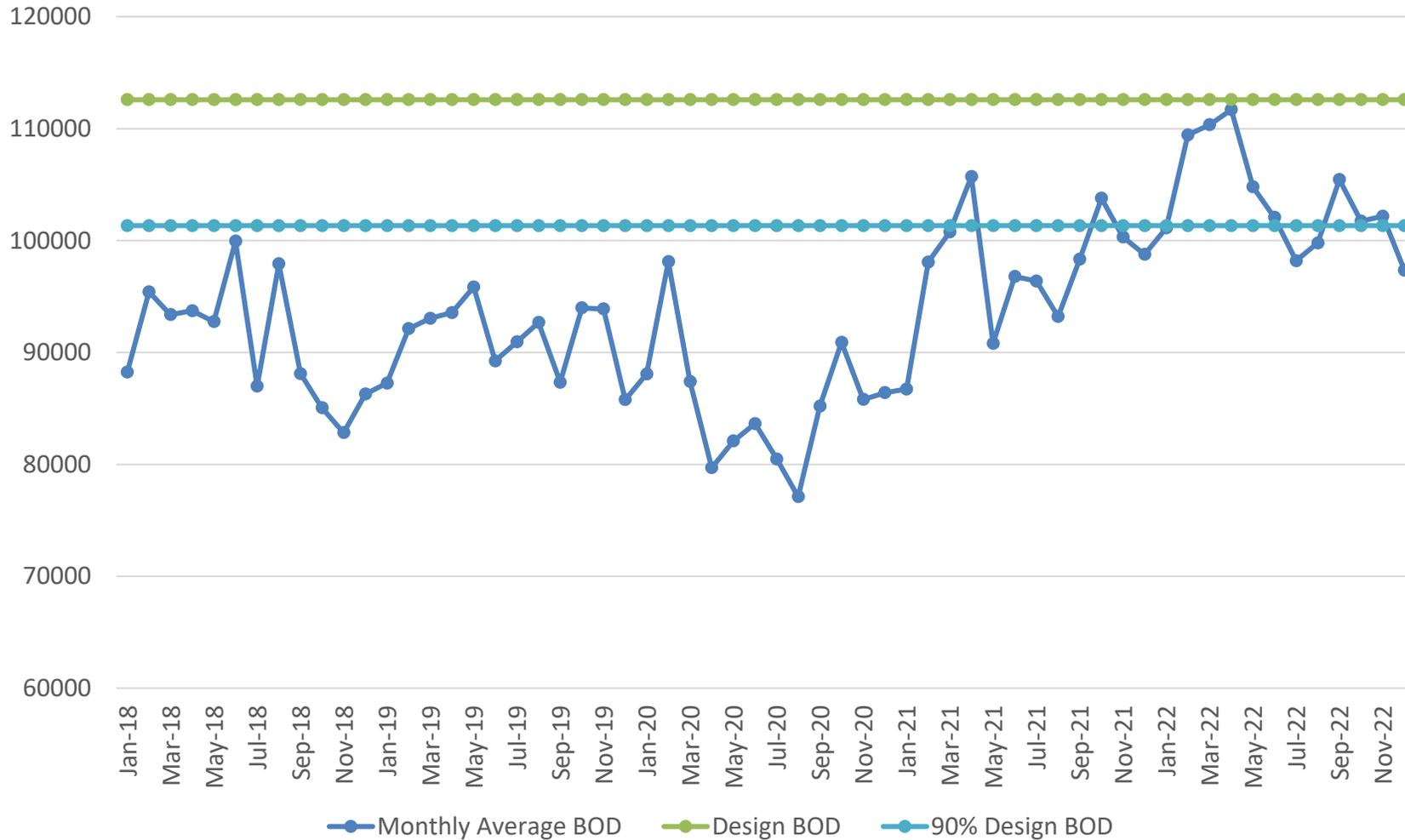
Influent BOD Loading

2022 Monthly Average BOD Loadings (lbs/day)



Influent BOD Loading

Monthly Average Influent BOD Loadings (lbs/day)





Biosolids Management



One Instance of Nitrogen Over Application

Lost 30 points, dropped score down to a D

Replacing Old Technology

New Terragators are equipped with GPS and Autosteer technology

Cause of Over Application

4 sites are run at a time with a 5th as backup

Only 3 new machines

Old equipment uses different type of cultivator bars

Farmers may prefer more tillage even if new equipment is available

70% of sites applied with new technology in 2022

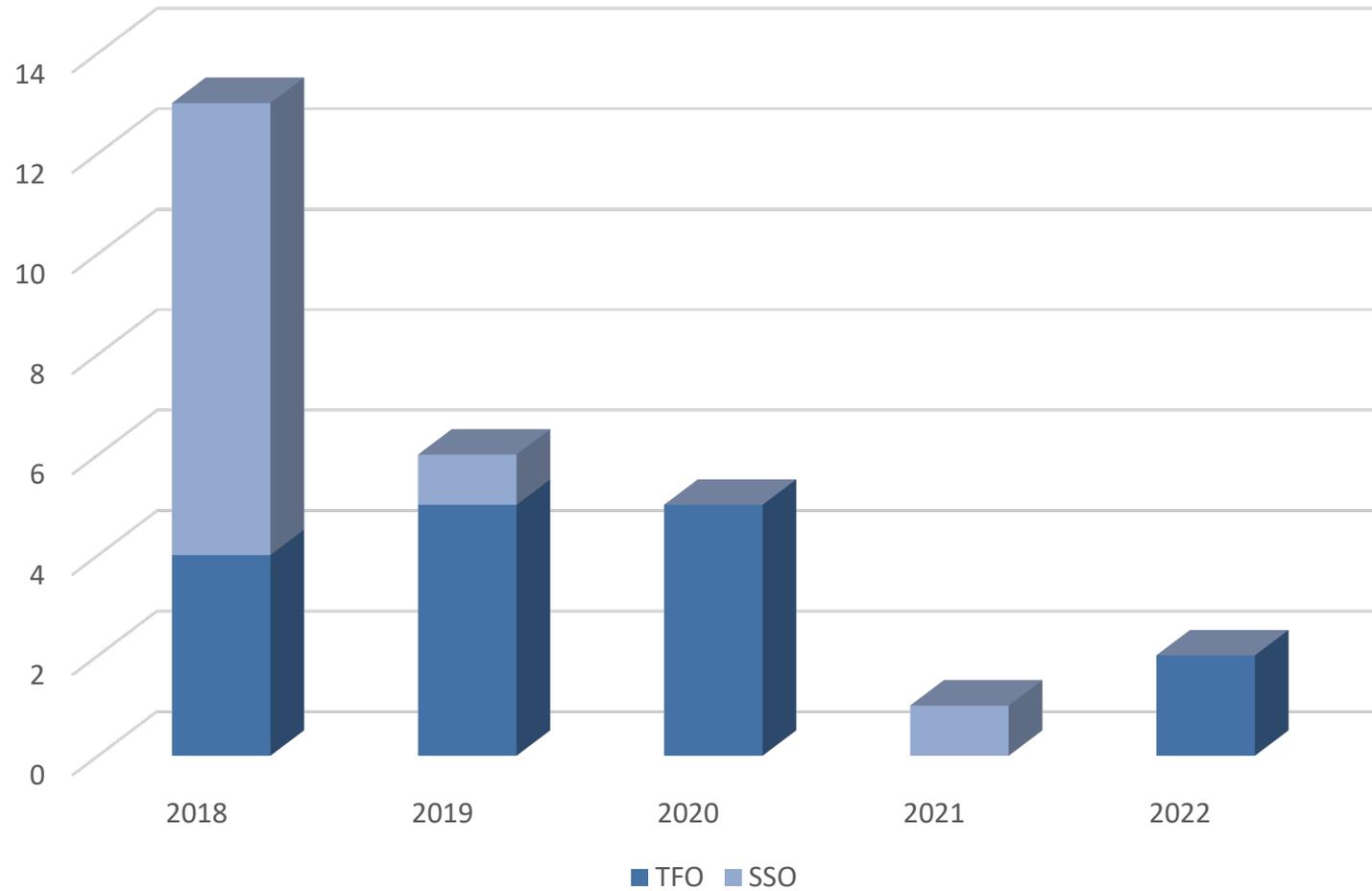
New QA/QC Measures

New QA/QC processes went into effect after spring of 2021 which flags erroneous data

19 fewer instances of overapplication this year



Historical Overflows



Madison Metropolitan Sewerage District



2022 Overflows

August 30th



September 9th



Madison Metropolitan Sewerage District



Resolution

The Commission is requested to adopt Resolution 2023-06-15-R4, accepting the Compliance Maintenance Annual Report and the required response actions therein.

- GPA: 3.43
- Responses required for grades below “B”
- Influent BOD loading: commencement of liquids processing phase 2
- Biosolids management: continued replacement of aging equipment
- Actions to prevent overflow reoccurrence
- Certification and submission due by June 30th, 2023



Questions?

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Visitor

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