

Pretreatment Audit Report

Metro Water Recovery

CO-0026638 (Hite) and CO-0048959 (NTP)

Denver, Colorado

April 15, 2024 to April 29, 2024



Prepared by:

Al Garcia, Pretreatment Coordinator
U.S. Environmental Protection Agency, Region 8
Wastewater Section (8WD-CWW)

1595 Wynkoop
Denver, CO 80202
303.312.6382
garcia.al@epa.gov

Report Review and Signature		
Drafter Name	Address/Phone Number	Date
Al Garcia	U.S. EPA Region 8 1595 Wynkoop Street 8WD-CWW Denver, Colorado 80202	08/15/2024
	303-312-6382	
Reviewer Name	Address/Phone Number	Date
Stephanie Passarelli	U.S. EPA Region 8 1595 Wynkoop Street 8ENF-W-NP Denver, Colorado 80202	08/19/24
	303-312-6803	
Supervisor Signature/Name	Address/Phone Number	Date
MICHAEL BOEGLIN  Digitally signed by MICHAEL BOEGLIN Date: 2024.08.26 12:22:48 -06'00'	U.S. EPA Region 8 1595 Wynkoop Street 8WD-CWW Denver, Colorado 80202	08/26/2024
	Michael Boeglin 303-312-6250	

Pretreatment Audit Summary Table

Metro Water Recovery Pretreatment Audit Report
CO-0026638 and CO-0048959
April 15, 2024 to April 29, 2024

Pretreatment Audit Findings	Pretreatment Requirement and Corrective Action
<i>Section 3.0 – Resources</i>	
1. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(3) require MWR to have sufficient resources and qualified personnel to carry out the authorities and procedures described in paragraphs (f) (1) and (2) of this section <i>[implementation of the Pretreatment Program]</i>. Based on the EPA’s review of the MWR’s implementation of its Pretreatment program, it appears that the organization of the Pretreatment personnel is an efficient use of its current resources and personnel. However, it appears that MWR needs additional resources in its Sector, Permits and Engineering (P&E) and Compliance and Enforcement (C&E) divisions to help with their IU and permit management workload. - The current workload for the C&E division is approximately 20 SIU permits per Specialist. It appears that based on the EPA’s evaluation of the Pretreatment records, the P&E team has a backlog of evaluation for control plans such as slug discharge control (Meati, Specialty Plating), tank management plan/TOMP (Specialty Plating); confidential business information (Meati Foods), and categorical determinations. In addition, a significant workload of SIU permits has a potential for errors in compliance evaluation during evaluation of the required compliance reports and notices or during evaluation of slug discharge potential during facility inspections. The EPA recommends MWR develop a SIU permit workload to about 12-15 permits per Specialist. - The Sector division has a 4-month backlog in the Industrial Waste Inventory and characterization. - In addition, the EPA has concerns with the	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(3) <u>Corrective Action Item</u> The MWR is required, at a minimum, to provide a staffing plan to the EPA to ensure the program is adequately implementing the Pretreatment Regulations.

Environmental Sampling Team (EST) providing part time sampling support for MWR's Pretreatment program. Based on information gathered during the audit, it appears that the EST primary objective is to sample for MWR POTW compliance, and this results in MWR not having the flexibility to sample its SIUs/IUs on-demand or as needed because of scheduling conflicts. The EPA recommends MWR evaluate the need for a full-time sampling team to ensure the program meets its sampling requirements, including on-demand sampling.

Section 3.0 – Rules/Regulations and Intergovernmental Agreements

2. 40 C.F.R. § 403.8(f)(1) states, “The POTW shall operate pursuant to legal authority enforceable in Federal, State, or local courts, which authorizes or enables the POTW to apply and to enforce the requirements of sections 307 (b) and (c), and 402(b)(8) of the Clean Water Act (Act) and any regulations implementing those sections. Such authority may be contained in a statute, ordinance, or series of contracts or joint powers agreements which the POTW is authorized to enact, enter into or implement, and which are authorized by State law.”

Metro Water Recovery (MWR) provided its Pretreatment Legal Authority found in its Rules and Regulations, Sections 1-10, Appendices A & B that were adopted on January 17, 2023. Based on the EPA's review, the Pretreatment Regulations incorporated in MWR's Rules and Regulations provide the MWR the framework to implement the Pretreatment Regulations in the POTW's service area with the following exception: (Note: *the EPA's review of MWR's Rules and Regulations will be enclosed in the audit report –Metro Legal Authority Review.pdf*)

- Submission of all monitoring data [40 C.F.R. § 403.12(g)] – Metro has not incorporated the requirement to submit all monitoring data if the IU monitors any regulated pollutant at the appropriate monitoring point more frequently than required by Metro and using the approved sampling/analytical methods in 40 CFR 136.

Pretreatment Requirements

40 C.F.R. § 403.8(f)(1)

40 C.F.R. § 403.12(g)

Corrective Action Item

Update the MWR Rules and Regulations to include the submission of all monitoring data, as required in 40 C.F.R. § 403.12(g) of the Pretreatment Regulations.

• The EPA recommends Metro establish the authority to gather digital photos during inspections, sampling and other Pretreatment field programmatic activities.	
3. 40 C.F.R. § 403.8(f)(1) states, “The POTW shall operate pursuant to legal authority enforceable in Federal, State, or local courts, which authorizes or enables the POTW to apply and to enforce the requirements of sections 307 (b) and (c), and 402(b)(8) of the Clean Water Act (Act) and any regulations implementing those sections. Such authority may be contained in a statute, ordinance, or series of contracts or joint powers agreements which the POTW is authorized to enact, enter into or implement, and which are authorized by State law.” Based on information gathered during the Pretreatment audit, MWR has 57 direct and indirect outside contributing jurisdictions that contribute wastewater to the MWR’s Hite and NTP POTWs. The EPA evaluated the individual inter-governmental agreements (IGAs) for each of the 57 outside contributing jurisdictions. The majority of the IGAs evaluated by the EPA adequately delegate Pretreatment implementation authority to MWR. The EPA has the following observations for MWR to provide additional information or follow up: • The IGAs for the following jurisdictions are dated in the 1980’s and state they only have residential contributions. MWR needs to provide follow-up to ensure the following jurisdictions consist of residential and do not have non-domestic sources contributing wastewater that could be subject to Pretreatment Standards. • Cherry Hills North – IGA dated 6/20/1985. • Devonshire Heights – IGA dated 05/21/1985. • Mansfield Heights – IGA dated 05/17/1985. • Ralston Valley – IGA dated 07/02/1985. • The City of Golden has adopted Metro’s ordinance in 2007 but there was not an IGA in the Pretreatment records. MWR needs to determine if the City of Golden has a current IGA. • West Alameda Heights – No IGA, correspondence states they adopted a	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(1) <u>Corrective Action Item</u> Provide follow-up on the IGAs to ensure the MWR has adequate delegation authority to implement the Pretreatment program in the following outside contributing jurisdictions: • Cherry Hills North • Devonshire Heights • Mansfield Heights • Ralston Valley • City of Golden • West Alameda Heights

Pretreatment program and have identified Kaiser as the only IU. MWR needs to determine if West Alameda Heights has a current IGA.	
<i>Section 8.0 – Control Mechanism (Permit) Evaluation and Permit Specific Issues</i>	
4. The EPA evaluated the MWR’s permit template to ensure the MWR is incorporating the required permit conditions found in the Pretreatment Regulations at 40 C.F.R. § 403.8(f)(1)(iii)(B)(1-6) and Section 6.22.5 of the MWR’s Rules and Regulations. MWR has incorporated PFAS investigation and monitoring in the permit template to address the PFAS memorandum issued by the EPA on December 12, 2022. The permit template incorporates the permit conditions required in the Pretreatment Regulations and the MWR Rules and Regulations, with the following exceptions: • <i>Submission of all Monitoring data</i> [40 CFR § 403.12(g)(6)] – the Federal Pretreatment Regulations state the following: “If an Industrial User subject to the reporting requirement in paragraph (e) or (h) [<i>compliance reports</i>] of this section monitors any regulated pollutant at the appropriate sampling location more frequently than required by the Control Authority, using the procedures prescribed in paragraph (g)(5) [40 CFR 136] of this section, the results of this monitoring shall be included in the report.” [<i>emphasis added</i>]. This permit condition is not incorporated in the MWR permit template. • Process for Seeking a Waiver for Pollutants Not Present or Expected to be Present [40 C.F.R. §403.12(e)(2)] – this optional Pretreatment Streamlining requirement was adopted by the MWR in Section 6.22.5(4) of its Rules and Regulations. MWR’s permit template does not include this provision for any SIUs that choose to apply for Pollutants not Present.	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(1)(iii)(B)(1-6) 40 CFR § 403.12(g)(6) 40 C.F.R §403.12(e)(2) MWR Rules and Regulations, Section 6.22.5(4) <u>Corrective Action Item</u> Update the permit template to include the absent permit conditions required in the Pretreatment Regulations at 40 C.F.R. § 403.8(f)(1)(iii)(B)(1-6) and Section 6.22.5 of the MWR’s Rules and Regulations
5. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(ii) require the MWR to “Identify the character and volume of pollutants contributed to the POTW.” The SIU inspection reports include detail regarding the SIU’s chemical storage/handling/transfer, process/unit operations,	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(2)(ii) 40 C.F.R. § 403.8(f)(2)(vi) <u>Corrective Action Item</u>

wastestream generation from these unit operations, wastestream management or wastewater treatment, and sampling procedures to provide a current characterization and process or treatment plant changes. However, based on the review of the Pretreatment records and Meati Foods facility inspection conducted by the EPA on April 18, 2024, MWR needs to evaluate its information gathering during inspections to ensure it adequately evaluates slug discharge potential, including spills and non-routine batch discharges at the permitted SIUs and zero-discharge facilities, as required in the Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(vi).	Ensure slug discharge potential, including spills and non-routine batch discharges is adequately evaluated at the permitted SIUs and zero-discharge facilities and adequate control is established in slug discharge control plans, representative of current conditions at the SIU. <u>Recommendation</u> The EPA recommends MWR inspection personnel consider “trading SIU inspection responsibilities” from time to time to get a fresh or different perspective when inspecting SIUs in the service area. The EPA recommends the MWR gather digital photos during SIU inspections to provide current photos of areas relevant to the Pretreatment permit, including but not limited to floor drains, unit operations, raw material/chemical storage, applicable chemical handling equipment, wastestreams, treatment. MWR should evaluate its current IU inspection form to determine if it is an adequate tool to characterize IUs in its service area. The EPA provided its facility inspection report form for MWR to consider. In addition, the Region 8 Facility inspection form is enclosed with this audit report.
6. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(iii) require MWR to “Notify Industrial Users of applicable Pretreatment Standards and any applicable requirements...”. This includes control documents associated with the SIU permit such as slug discharge control plans and toxic organic management plans (TOMP). The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(vi) require a POTW to evaluate whether each such Significant Industrial User needs a plan or other action to control Slug Discharges. A Slug Discharge is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch Discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the POTW's	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(2)(iii) 40 C.F.R. § 403.8(f)(2)(vi) <u>Corrective Action Item</u> Ensure Specialty Plating develops a slug discharge control plan representative of current conditions.

regulations, local limits or Permit conditions. Based on the EPA’s review of the Specialty Plating Pretreatment records, there is uncertainty if a slug discharge control plan, representative of current conditions has been developed.	
7. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(1)(iii) require the MWR to “Control through Permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements.” The permit conditions are established in 40 C.F.R. § 403.8(f)(1)(iii)(B)(1-6) and require at a minimum, applicable effluent limits and monitoring and reporting requirements for pollutants of concern. The Niagra Bottling permit amendment issued on March 31, 2023, establishes permit limits for As, Cd, Cr, Cu, Pb, Hg, Mo, Ni, Se, Ag, Zn, pH, and CN. All permit limited parameters have associated monitoring requirements except for Cd, Pb, Hg and Ag.	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(2)(iii) 40 C.F.R. § 403.8(f)(1)(iii)(B)(1-6) <u>Corrective Action Item</u> Ensure all permit-limited parameters, including Cd, Pb, Hg and Ag for the Niagra Bottling permit have associated monitoring requirements.
8. The Pretreatment Regulations at 40 C.F.R. § 403.12(g)(3) require that compliance reports must be based upon data obtained through appropriate sampling and analysis performed during the period covered by the report, and that such data are representative of conditions occurring during the reporting period. The Sundyne zero discharge permit at Section B.1 requires the following: “A Zero Discharge Compliance Certification Report (Report) must be completed, signed and submitted to Metro at 6450 York Street, Denver, CO 80229-7499, no later than December 31 of each calendar year.” The compliance monitoring period for the zero discharge permit ends on December 31 annually and a report submitted before the end of the compliance period would not encompass the entire compliance monitoring period, and as a result it would be incomplete.	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.12(g)(3) <u>Corrective Action Item</u> Ensure the Sundyne and other annual zero discharge certification reports are received after the time period is completed, which is December 31 of each calendar year.
9. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(vii) require MWR to “Investigate instances of noncompliance with Pretreatment Standards and Requirements, as indicated in the reports and notices.” Based on the EPA’s review of	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(2)(iii) <u>Corrective Action Item</u>

the Pretreatment records, the U.S. Mint did not sample for As, Cd, Hg, Ag and Se in 2022 as required in its permit on an annual frequency.	Provide an enforcement action, according to the MWR ERP, to the U.S. Mint for the failure to sample for As, Cd, Hg, Ag, and Se in 2022.
10. The Pretreatment Regulations at 40 C.F.R. § 403.12(g)(3) require that compliance reports must be based upon data obtained through appropriate sampling and analysis performed during the period covered by the report, and that such data are representative of conditions occurring during the reporting period. Based on the EPA’s review of the Pretreatment records, some of the periodic compliance reports (PCRs) submitted by McDonald Farms are not complete because the required “no discharge” option is not consistently checked when the facility is reporting no discharge.	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.12(g)(3) <u>Corrective Action Item</u> Ensure the PCRs submitted by McDonald Farms are accurately completed including checking the “no discharge” option if no discharge occurs during the reporting period.
11. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(vi) require a POTW to evaluate whether each such Significant Industrial User needs a plan or other action to control Slug Discharges. A Slug Discharge is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch Discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the POTW's regulations, local limits or Permit conditions. McDonald Farms had a leaky sludge return valve on the sock filter immediately upstream of MP 001 in December 2022.	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(2)(vi) <u>Corrective Action Item</u> Ensure McDonald Farms updates their slug discharge control plan or spill plan to include a description on maintenance or inspections of the sludge return valve on the sock filter immediately upstream of MP 001 and other applicable valves to minimize or eliminate the potential for slug discharges.
12. The Pretreatment Regulations at 40 C.F.R. § 403.14(b) state: “Information and data provided to the Control Authority ...which is effluent data shall be available to the public without restriction.” Based on the EPA’s review of the Pretreatment records, Meati Foods is stamping the submitted PCRs as confidential. Effluent data are not confidential business information.	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.14(b) <u>Corrective Action Item</u> Determine if Meati Foods is submitting confidential information in the PCRs and ensure information and effluent data provided to MWR is available to the public in compliance with 40 C.F.R. § 403.14(b).
13. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(ii) require the MWR to “Identify the character and volume of pollutants contributed to the POTW.” The EPA conducted a facility inspection of Meati Foods on April 18, 2024, and the report was	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(2)(ii) 40 C.F.R. § 403.8(f)(2)(vi)

submitted to the facility on April 29, 2024.

The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(vi) require a POTW to evaluate whether each such Significant Industrial User needs a plan or other action to control Slug Discharges. A Slug Discharge is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch Discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the POTW's regulations, local limits or Permit conditions. During the review of the Pretreatment records and gathering information during the April 18, 2024, facility inspection, the facility's current slug discharge control plan does not address current conditions at the facility that have a potential for slug discharge.

During the inspection, the EPA and facility representatives discussed the pH monitoring conditions at MP 002 during situations where it does not appear that discharges are occurring. According to Mr. Johnston and Mr. Rau, when a discharge is not occurring, wastewater remains in the pipe and results in erroneous pH readings because there is not an active discharge from the EQ tank. The EPA is uncertain whether pH measurements during periods of no discharge are a result of 'pH drift'. It is possible that the pH measurements reflect wastewater quality occurring downstream in the collection system, as a result of biological activity and the effect on pH. Based on information gathered during the inspection, the facility uses potassium hydroxide to neutralize pH, because of biological activity in the fermentation process.

Corrective Action Item

MWR needs to ensure Meati Foods updates its slug discharge control plan to address the following potential slug discharges at the facility:

- Meati Foods has a significant potential of off spec fermentation batches. At the time of the facility inspection, the off spec or non-routine batches were dumped to the wastewater treatment system, after calculations of the phosphorus loading limits implemented by the MWR October 3, 2023, permit modification. However, it does not appear the facility is considering other compliance limits in the MWR permit when determining the management of these non-routine or slug discharges.
- The facility has not constructed adequate structures or measures to contain leaks or spills that may occur during the outside delivery of bulk sugar or high fructose corn syrup to the North Plant.

The update to the slug discharge control plan must include procedures to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, and/or measures and equipment for emergency response. In addition, the update must include immediate notification and follow up reports of slug discharges, as required by Section F.3 of Permit #11843-1-1A.

Recommended

The EPA recommends Meati Foods investigate the discharge of mycelium biomass at MP 001 and MP 002, the resulting biological activity that may impact pH and ensure it is adequately controlling its impact to the City of Thornton's sewer collection system and MWR Northern Treatment Plant.

14. The Pretreatment Regulations at 40 C.F.R. § 403.12(g)(3) require that compliance reports must be based upon data obtained through appropriate sampling and analysis performed during the period covered by the report, and that such data are representative of conditions occurring during the reporting period. Based on observations during the facility tour of Meati Foods, the sample probe for the ISCO automatic sampler was incorrectly placed in the converging section of the Parshall flume at MP 001. The placement of the probe affects the wastewater flow, upstream of the primary flow monitoring device, potentially resulting in erroneous flow measurements.	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(2)(ii) 40 C.F.R. § 403.8(f)(2)(vi) <u>Corrective Action Item</u> Require Meati Foods to place the ISCO automatic sampler probe in the diverging section of the Parshall flume or downstream of the primary flow monitoring device to ensure the probe does not affect flow monitoring during compliance monitoring events.
15. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(iv) require MWR to “Receive and analyze self-monitoring reports and other notices submitted by Industrial Users...” Rocky Mountain Bottling Company (RMBC) submitted periodic compliance reports on October 2022, January 2023, March 2023, April 2023 that were date stamped by MWR as received past the due date required in the permit. It appears that these periodic compliance reports are hand delivered in the MWR mailbox located outside the POTW fence and it appears that MWR does not consistently receive, and date stamp the compliance reports as soon as they are hand delivered. Based on the EPA’s review of the RMBCs Production Data Sheets used to report discharged pollutant mass, an error was identified in calculating the Monthly average from March 2022 to December 2022. The total number of daily average samples were not being used, and subsequently additional 0.0 values were being included. All Monthly averages were recalculated and did not result in any permit effluent exceedances.	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(2)(iv) <u>Corrective Action Item</u> Ensure consistent review of Rocky Mountain Bottling Company’s calculations sheets for accuracy and compliance evaluation. <u>Recommended</u> The EPA discussed with MWR the issue with the hand delivery mailbox located outside the fence line near the guard shack and the importance of date stamping reports and notices as soon as feasibly possible. The EPA recommends the MWR evaluate opportunities to modify procedures for hand delivery of PCRs to ensure submitted reports are confirmed received in a timely manner.
16. The Pretreatment Regulations at 40 C.F.R. § 403.12(g)(6) requires RMBC to include in the compliance report any additional monitoring of the regulated pollutant sampled at the appropriate sampling location more frequently than required by the Control Authority, using EPA-approved methods	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.12(g)(6) <u>Corrective Action Item</u> Ensure Rocky Mountain Bottling Company submits and includes all monitoring data collected at the Monitoring Point using

found at 40 C.F.R. § 136. Based on the EPA’s review of the January 2023 periodic compliance report, RMBCs second required sample collection for the month failed and RMBC was not able to meet the twice monthly sampling requirements. MWR issued a Notice of Violation for the missed sampling event and RMBC collected a make-up sample in February 2023 in addition to the two monthly required sampling events. However, only the two required sampling events were used to calculate the Monthly average for compliance purposes.	approved sampling/analytical methods in 40 CFR 136 in monthly calculations.
17. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(iv) require MWR to “Receive and analyze self-monitoring reports and other notices submitted by Industrial Users...” The periodic compliance reports submitted by Darling Ingredients do not appear to be consistent in the monitoring points. The January – March 2023 periodic compliance report designates MP001, and the April-December 2023 periodic compliance report designates MP002. MWR has raised the question regarding the appropriate monitoring point with the SIU, and is working directly with facility to confirm appropriate location and correct reporting.	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(2)(iv) <u>Corrective Action Item</u> Verify sampling location where Darling is collecting monitoring events to ensure representative monitoring.
<i>Section 11.0 – Enforcement Authority, Compliance Evaluation and the Enforcement Response Plan (ERP)</i>	
18. The EPA establishes the regulatory requirement to develop and implement an Enforcement Response Plan (ERP) in 40 C.F.R. § 403.8(f)(5)(i-iv) of the Pretreatment Regulations. The regulations state: “The POTW shall develop and implement an enforcement response plan. This plan shall contain detailed procedures indicating how a POTW will investigate and respond to instances of industrial user noncompliance. The plan shall, at a minimum: (i) Describe how the POTW will investigate instances of noncompliance. (ii) Describe the types of escalating enforcement responses the POTW will take in response to all anticipated types of industrial user violations and the time periods within which responses will take place. (iii) Identify (by title) the official(s) responsible for	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(5)(i-iv) <u>Corrective Action Item</u> Update the ERP to comply with the Pretreatment legal remedies and to include enforcement responses for Pretreatment programs implemented by MWR. <u>Recommended</u> The EPA recommends the MWR consider the following updates to its ERP: • 24-hour and upset notifications are not specifically identified in ERP; recommend these be added to the list of Failure to accurately report • noncompliance or FARN in ERG.

each type of response.

(iv) Adequately reflect the POTW's primary responsibility to enforce all applicable pretreatment requirements and standards.”

Based on the EPA’s review, MWR’s ERP meets the requirements established in the Pretreatment regulations at 40 C.F.R. § 403.8(f)(5)(i-iv) and incorporated in the municipal ordinance, with the following exceptions: (Note: *the EPA’s comments of MWR’s ERP are summarized below and are enclosed in the audit report –Metro ERP Review.pdf. In addition, the EPA’s comments are embedded in the enclosed MWR ERP - EPA Comments.pdf*)

- MWR needs to update the ERP to state that Hauled Waste Discharge and Dental Compliance required reports received 45 days past the due date meet the SNC criteria.
- MWR needs to update the ERP to include Dilution as an anticipated type of violation.

- Recommend Metro provide the following references to its Rule/Regs in the ERP:
- SNC Criteria – Rules/Regs-6.26.12
- SNC Publication – Rules/Regs-6.28.12(ERP-12.6.7)

Table of Contents

1.0	Introduction.....	17
2.0	Publicly Owned Treatment Works (POTW) Information	18
2.1	NPDES Permit.....	19
3.0	Resources	26
3.1	Resources Regulatory Background	26
3.2	Evaluation of the MWR’s Resources and Funding.....	26
3.3	Examples of Available Pretreatment Training/Resources	28
4.0	Rules/Regulations and Intergovernmental Agreements	28
4.1	Legal Authority Background.....	28
4.2	MWR Rules and Regulations.....	30
4.3	Inter-Jurisdictional or Governmental Agreements (IGA)	31
4.3.1	IGA Regulatory Background	31
4.3.2	Evaluation of the MWR’s IGAs with Outside Contributing Jurisdictions .	31
5.0	Local Limits	32
5.1	Local Limits Regulatory Background.....	32
5.2	Local Limits Requirements Established in the MWR’s NPDES Permits.....	33
5.3	The EPA Evaluation of the MWR’s Local Limits	33
5.3.1	Technically-based Local Limits.....	33
5.3.2	Numeric Ordinance Limits	34
5.3.3	Dilution Prohibition	35
5.4	Local Limits Technical Evaluation-Regulatory Background.....	35
5.5	Technical Evaluation of the MWR’s Local Limits	36
5.6	Permit or Site-Specific Limits.....	37
6.0	Pretreatment Operating Procedures	38
6.1	Regulatory Background.....	38
6.2	Standard Operating Procedures (SOPs)	39
6.3	Templates	40
6.4	Records and Data Management.....	40
6.4.1	Regulatory Background	40
6.4.2	Recordkeeping and Data Management	41

6.5	Receipt of Discharge Monitoring Reports and Notifications	41
6.6	Management of Confidential Records.....	42
7.0	Industrial User Inventory and Characterization	43
7.1	Regulatory Background.....	43
7.2	Industrial User Identification and Characterization Procedure	44
7.3	Industrial User Database of the MWR’s Service Area	44
8.0	Control Mechanism (Permit) Evaluation and Permit Specific Issues.....	45
8.1	Regulatory Background.....	45
8.2	The EPA’s Evaluation of the MWR’s Permitting Legal Authority	48
8.3	Permit Template Overview	48
8.4	Specific Permit Record Findings	49
8.4.1	Permit records Overview	49
8.4.2	Specialty Plating	51
8.4.3	Niagra Bottling.....	52
8.4.4	Sundyne LLC	52
9.0	Significant Industrial User Facility Inspections.....	58
9.1	Regulatory Background.....	58
9.2	Right of Entry	59
9.3	Facility Inspection Records – Background	59
9.4	Evaluation of the MWR’s Inspection Reports/Records	61
9.5	Notification of Applicable Pretreatment Standards	61
9.6	Facility Inspections	61
10.0	Control Authority Compliance Monitoring	61
10.1	Regulatory Background.....	61
10.2	Sampling Plan and Protocols.....	62
10.2.1	Site-Specific Sampling Protocols	62
10.2.2	Quality Assurance/Quality Control (QA/QC)	63
10.3	The EPA Evaluation of MWR’s Control Authority Monitoring	63
10.3.1	SOPs.....	63
10.3.2	MWR’s Control Authority Monitoring.....	64

11.0	Enforcement Authority, Compliance Evaluation and the Enforcement Response Plan (ERP)	64
11.1	Regulatory Background.....	64
11.2	Enforcement Legal Authority.....	65
11.3	Enforcement Response Plan.....	65
11.4	Compliance Evaluation	65
11.5	SNC Calculations and Public Participation.....	66
12.0	Trucked and Hauled Waste.....	66
12.1	Regulatory Background.....	66
12.2	Legal Authority	67
12.3	Trucked and Hauled Waste Disposal Location and Control Mechanisms	67
13.0	Best Management Practices – Sector Control Programs	67
13.1	Regulatory Background.....	67
13.2	Authority in Rules and Regulations	68
13.3	Dental Amalgam BMP Sector Control Program.....	68
14.0	PFAS Roadmap and Implementation	69
14.1	2021 EPA PFAS Strategic Roadmap	70
14.2	Impact of the NPDES Initiatives on the MWR’s Pretreatment Program	76
14.3	CDPHE’s PFAS Policy 20-1	76

Figures

Figure 1	–Metro Water Recovery – Hite POTW Service Area Map.....	20
Figure 2	– Metro Water Recovery – NTP POTW Service Area Map	21
Figure 3	– Hite POTW Treatment Schematic Diagram.....	22
Figure 4	– NTP POTW Treatment Schematic Diagram	23
Figure 5	– Metro Water Recovery Hite POTW- Google Maps View	24
Figure 6	– Metro NTP POTW – Google Maps View	25

Tables

Table 1	– Local Limits (MWR Rules and Regulations: §6.18.1).....	34
Table 2	– Site-Specific Local Limits (MWR Rules and Regulations: §6.18.2)	38

1.0 Introduction

The U.S. Environmental Protection Agency, Region 8 (EPA) conducted an audit of the Pretreatment program, administered by Metro Water Recovery, CO (MWR) from April 15, 2024 to April 29, 2024. The Pretreatment audit started on April 15, 2024 at 8:00 a.m. with an opening interview. The closing conference was held on April 29, 2024 at 10:00 a.m. during which the EPA presented the preliminary observations, conclusions, and findings from the audit.

Participants in the audit included:

Metro Water Recovery, CO

Bret Icenogle	Pretreatment Coordinator
Amy Zimmerman	Principal Engineer
Jennifer Robinette	Director of Environmental Services
Sherman Papke	Chief Technical Officer

EPA

Al Garcia	Region 8 Pretreatment Coordinator
Stephanie Passarelli	EPA Region 8 ECAD Unit
Althea Wilson	EPA Region 8 ECAD Unit

The primary purpose of the EPA audit was to evaluate the Pretreatment program administered and implemented by MWR. In addition, the audit served as a forum for the EPA and MWR to discuss issues related to the implementation of the Pretreatment program, including PFAS requirements in MWR's NPDES permit and for the EPA to provide outreach and training to MWR.

The EPA Pretreatment audit consisted of an evaluation of the following:

- MWR's legal authority codified in its Rules and Regulations; Sections 1-10, Appendices A & B – adopted January 17, 2023.
- Development and implementation of MWR's local limits.
- MWR's resources to implement the Pretreatment program in its service area.
- Implementation policies and templates developed by MWR.
- Review and evaluation of the Pretreatment programmatic activities and records maintained for the permitted Significant Industrial Users (SIUs).
- Site inspection of selected SIUs and IUs in the service area to ensure the Pretreatment records reflect current conditions.
- Discussion of the Pretreatment Regulations and implementation.

The following sections of the report highlight the findings, corrective actions, and recommended actions of the audit. The action items to correct program deficiencies and meet regulatory requirements are identified in the Pretreatment Audit Summary Table, beginning on page 2 of this report. Specific actions to clarify and strengthen program

implementation are provided as recommendations within the body of the audit report.

2.0 Publicly Owned Treatment Works (POTW) Information

MWR owns and operates two Publicly Owned Treatment Works (POTW), the Robert Hite POTW [CO26638] located at 6450 York Street, Denver, CO 80229, Latitude: 39.809187° N, Longitude: 104.956887° W and the Northern Treatment Plant [CO0048959] located at 51 Baseline Road, Brighton, CO 80603, Latitude: 40.005° N, Longitude: 104.822° W. The POTWs provides wastewater collection and treatment for the service area boundaries of the MWR. The service area map for the Hite POTW is shown in Figure 1 and the service area map for the Northern Treatment Plant is shown in Figure 2. The treatment schematic for the Hite POTW is shown in Figure 3 and the NTP POTW in Figure 4. The Google Maps view of the Hite POTW is shown in Figure 5 and the NTP POTW in Figure 6.

Site visits of both the Hite and NTP POTWs were performed during the audit to develop an overview of the MWR's wastewater treatment plant operation and processes. The information regarding the POTWs and tours were provided by Liam Cavanaugh, COO and Deputy CEO and Kim Cowan, Operations and Maintenance Director-NTP. The Hite and NTP POTWs service approximately 40% of Colorado's population and about 800 square miles. The Hite POTW receives about 125 MGD and services most of the Metro Denver and the NTP POTW receives about 12 MGD and services most of Thornton, most of Brighton, portions of South Adams County, Aurora, DIA regional park, and the City of Fort Lupton in 2025.

Hite POTW –

There are four main interceptors that come into the Hite POTW: Sand Creek (a 54-inch running parallel to a triple barrel interceptor consisting of 42-inch, 36-inch and 24-inch lines), a 60-inch Clear Creek line, 72-inch Central Denver line, and a 90-inch Platte River line.

The Hite POTW site visit was a limited driving tour to inspect the trucked and hauled waste disposal site, and walkthroughs of the Headworks building, South Aeration basins, pumps and outfalls. The trucked and hauled waste disposal site is described in Section 12.0.

NTP POTW –

The 78-inch South Platte interceptor conveys wastewater from the service area of the NTP POTW which currently consists of Fort Lupton, significant portions of the cities of Thornton and Brighton, the 2nd Creek Interceptor that conveys wastewater from portions of South Adams County, Denver, Aurora, and the DIA Regional Park (although the glycol from plane de-icing operations are discharged to the Hite POTW).

The 78-inch South Platte interceptor leads to an influent pumphouse where the wastewater is lifted to the Headworks building equipped with two automatic bar screens that provide 2-step screening. The rags and other large organic material are washed, compacted, and collected in a roll-off bin. The contents of the roll-off bin are transported to the landfill about every four to six months. The wastewater flows from the bar screens to the two grit

basins where grit is separated, washed, and collected in a grit basin roll-off bin. The grit is transported to the landfill about every eight months. The flow from the Headworks is sent to a splitter structure for flow distribution to the two primary clarifiers. The primary solids generated from these clarifiers are pumped to gravity thickeners and then a fermentation bioreactor.

The primary effluent is sent to one of four parallel aeration basins. The aeration basins consist of 7-stage Bardenpho processes which provides zones and special conditions for both nitrogen and phosphorous removal. The anoxic zone of the aeration basins is provided carbon loading at about 4 MGD from the primary sludge fermentation bioreactor.

The effluent from the aeration basins are sent to the four secondary clarifiers, secondary solids are collected and sent to the thickeners and the effluent is sent to a tertiary pump station and pumped to a 2-stage system where alum is added to provide a flocculation agent in the 1st stage to bind to phosphorus and the flocked wastewater flows through a tertiary filtration consisting of a deep bed of coarse sand. The tertiary effluent is sent to UV disinfection and then to the permitted outfalls where the effluent discharges to the South Platte River.

Solids –

The primary solids are sent to the gravity thickeners and then a fermentation bioreactor for return flow to the 7-stage Bardenpho aeration basins. The primary sludge not sent to the fermentation bioreactor is wasted to the two anaerobic digesters. The solids from the aeration basin and the secondary clarifiers are wasted to a rotary drum thickener where polymer is added. The thickened sludge is sent to the anaerobic digesters and the filtrate is sent back to the headworks.

The anaerobic digesters are mesophilic, and the wasted sludge is digested for about 40 days. The digested sludge is sent to the centrifuge where it is mixed with ferric and polymer to condition the sludge. The centrifuge centrate is sent back to the headworks and the NTP POTW generates about 100 dry metric tons of Class B biosolids/month for land application.

2.1 NPDES Permit

The MWR's Hite NPDES permit #CO-0026638 and NTP permit #CO-0048959, issued by the Colorado Department of Public Health and Environment (CDPHE), contains provisions for an EPA-approved Pretreatment program in Part I.B.7. The Hite permit was issued and effective on July 1, 2011 and expired on June 30, 2023. The NTP permit was issued and effective on May 1, 2016 and expired on April 30, 2021. Both the Hite and NTP permits are currently administratively extended by the CDPHE without a projected reissuance schedule.

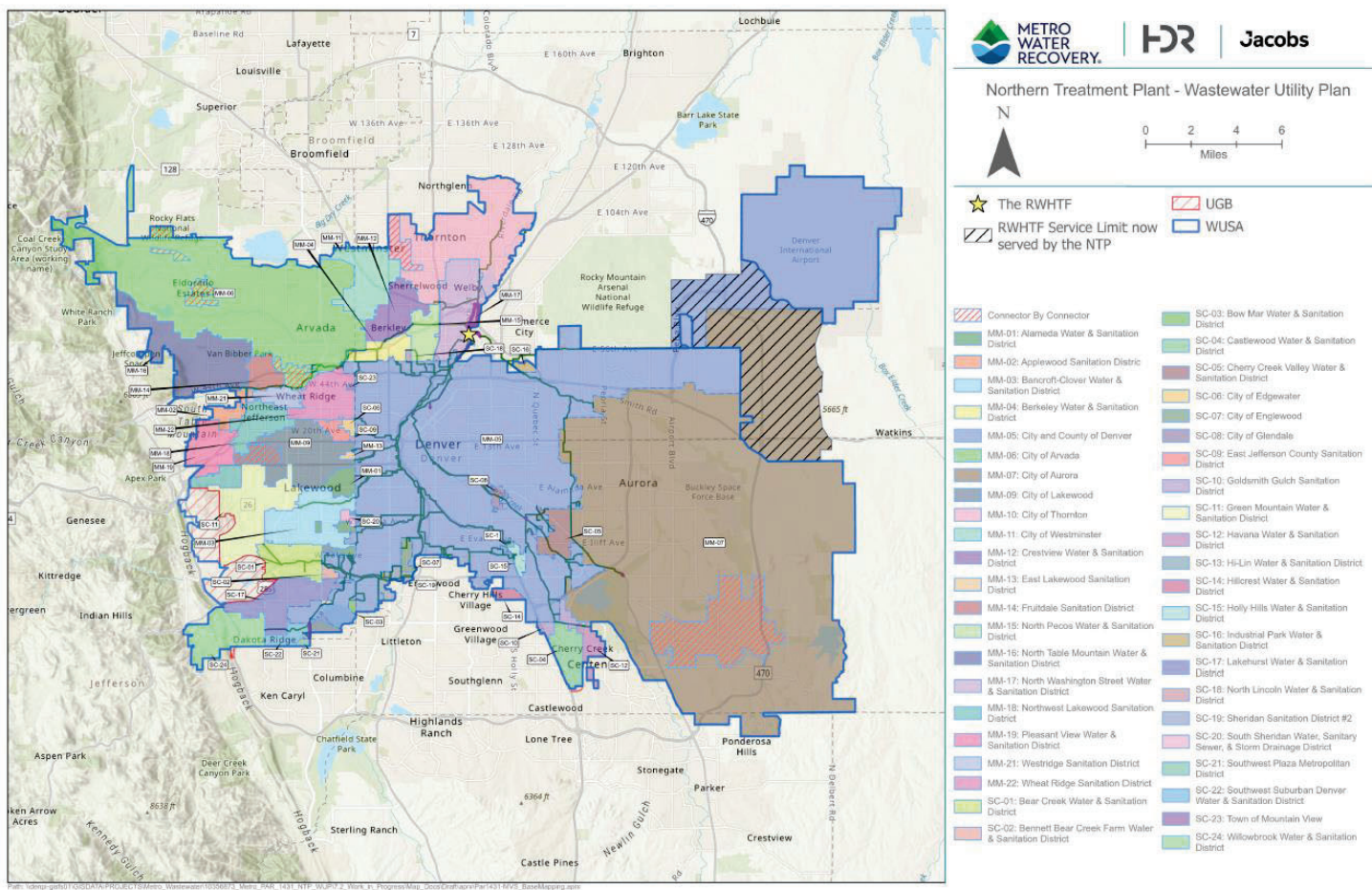


Figure 1 –Metro Water Recovery – Hite POTW Service Area Map

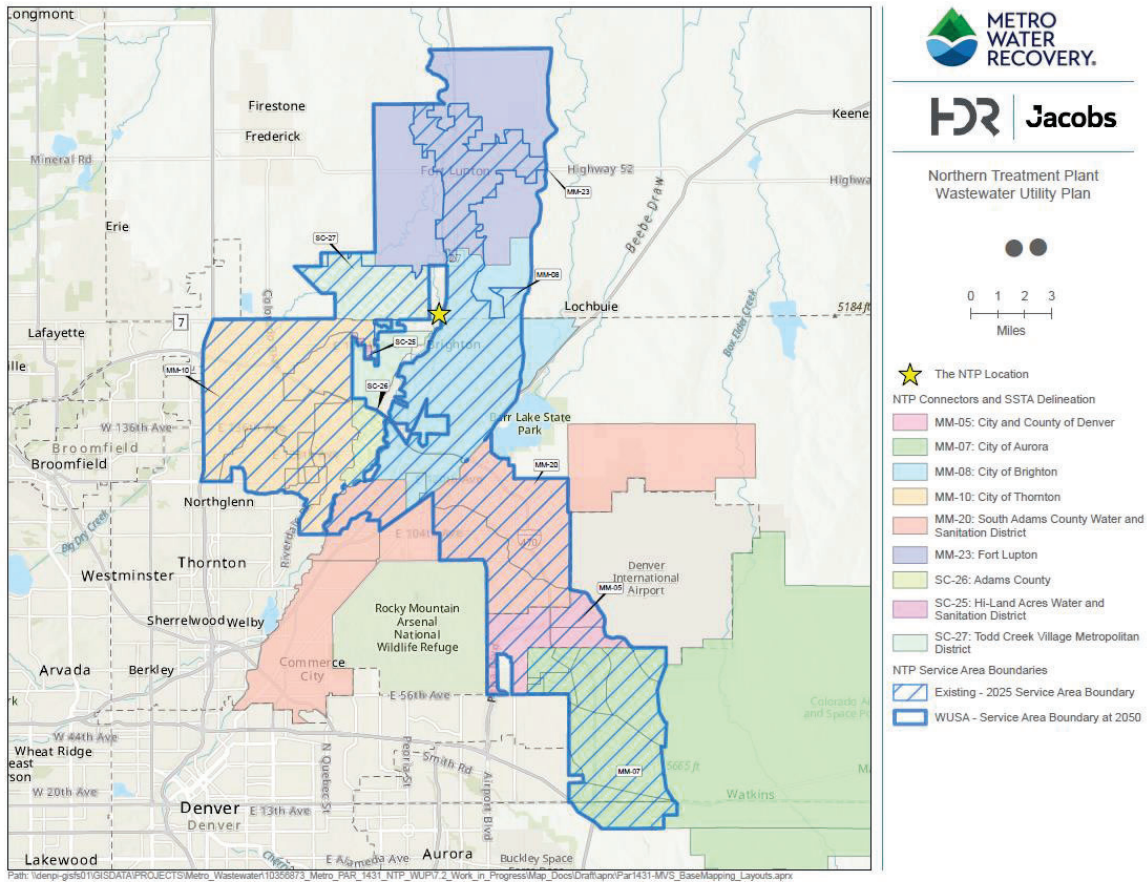


Figure 2 – Metro Water Recovery – NTP POTW Service Area Map

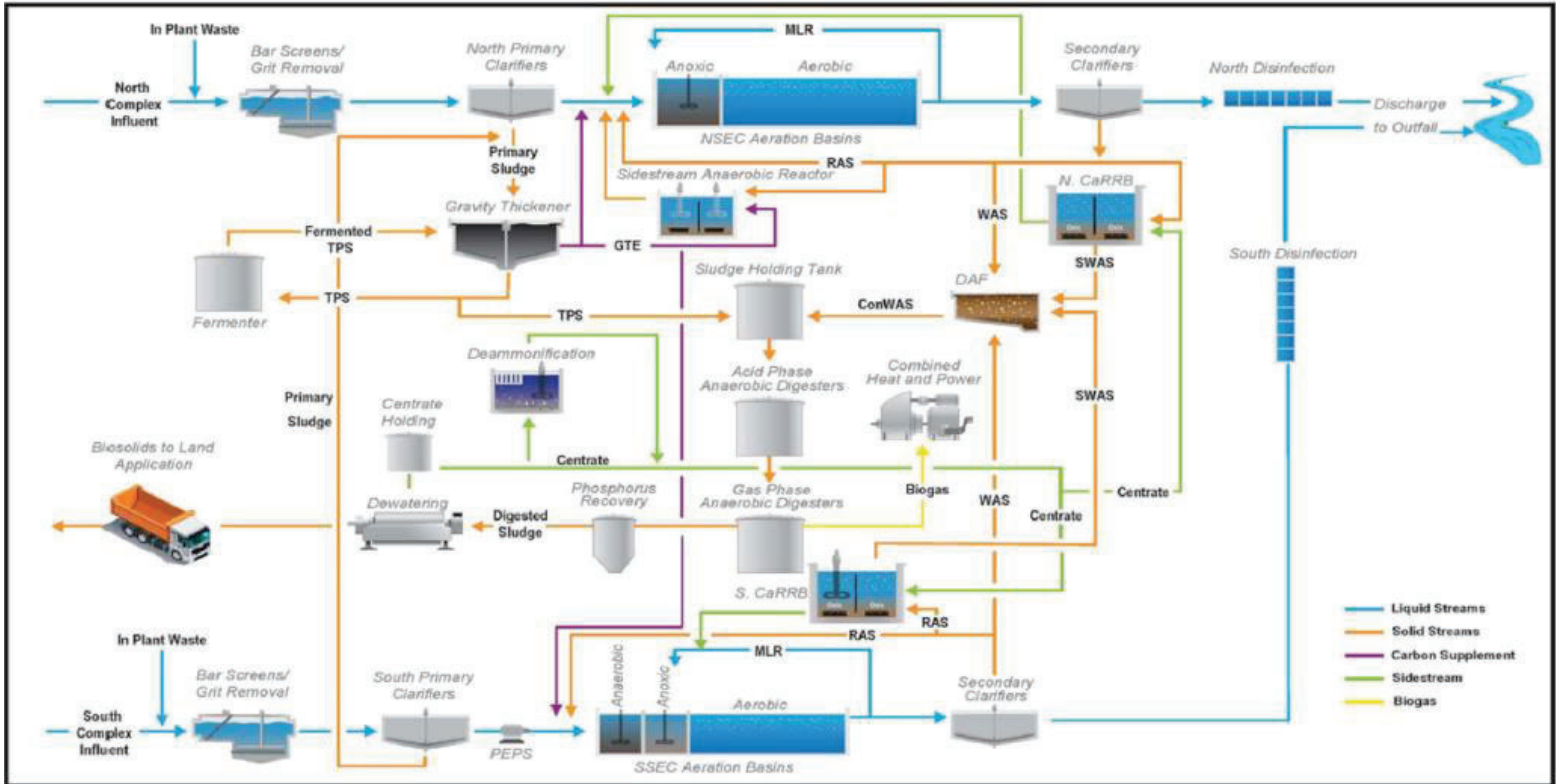


Figure 3 – Hite POTW Treatment Schematic Diagram

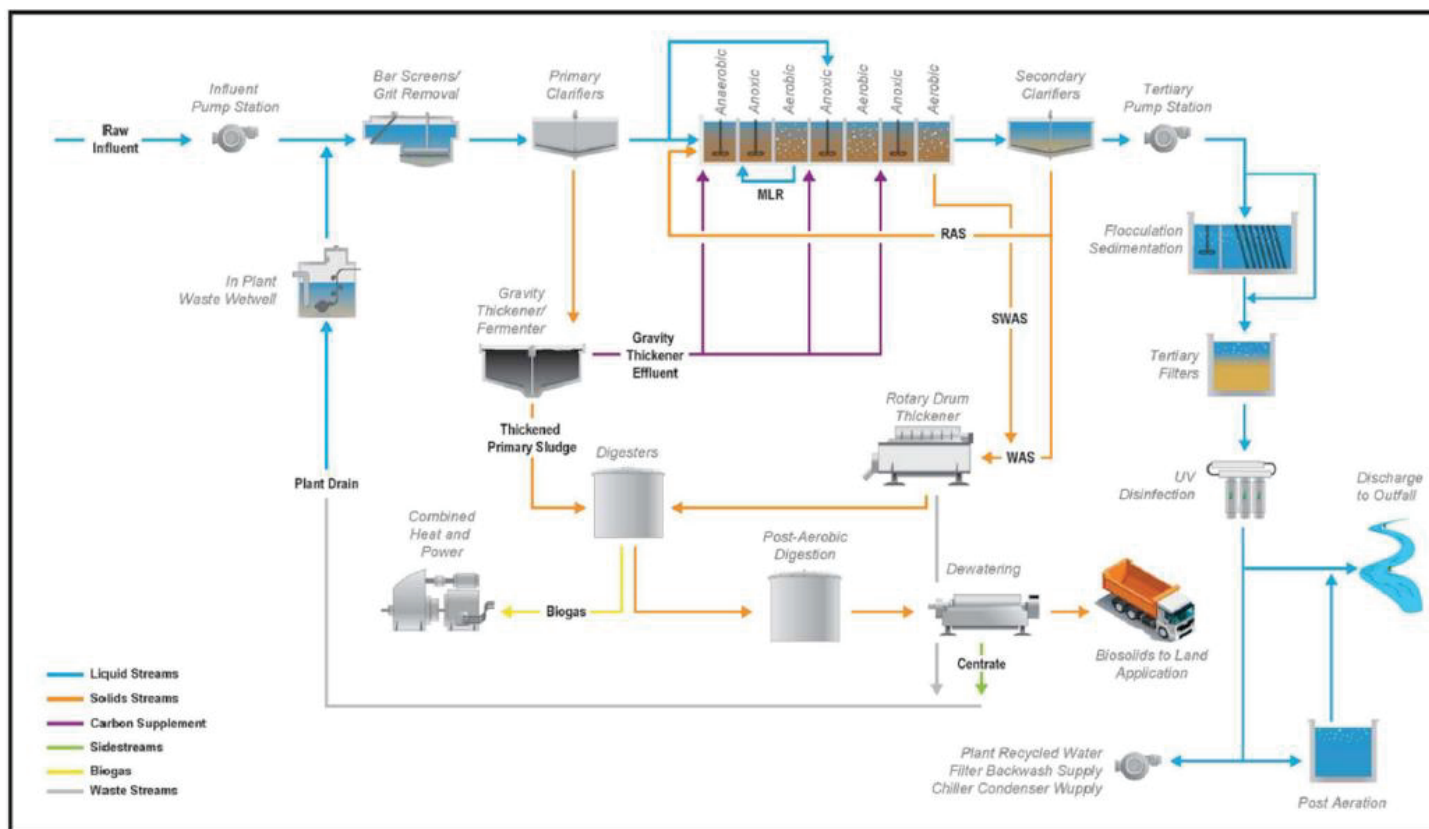


Figure 4 – NTP POTW Treatment Schematic Diagram



Figure 5 – Metro Water Recovery Hite POTW- Google Maps View



Figure 6 – Metro NTP POTW – Google Maps View

3.0 Resources

3.1 Resources Regulatory Background

The Pretreatment Regulations found in 40 C.F.R. § 403.8(f)(1-6) include POTW Pretreatment requirements and procedures to implement an approved Pretreatment program. These requirements and procedures include the legal authority and the implementation procedures of the Pretreatment program (permitting, inspections, sampling, industrial waste survey, receipt of IU reporting and notification, record-keeping, slug discharge control, data evaluation and enforcement for non-compliance). In addition, the Pretreatment Regulations found in 40 C.F.R. § 403.8(f)(3) state that the POTW shall have sufficient resources and qualified personnel to carry out the authorities and implementation procedures of the Pretreatment program.

A Pretreatment program, in compliance with the criteria listed in the Pretreatment Regulations, requires adequate and qualified staffing to implement the Pretreatment program in its service area. The resources required for each implementation activity depend largely on the size of the service area, number of IUs/SIUs/sector control programs, and Pretreatment program policies. A compliant program also requires a consistent funding mechanism to ensure the program is adequately funded and equipped to fully implement the program.

3.2 Evaluation of the MWR's Resources and Funding

According to the CY23 Pretreatment annual report, the MWR's resource commitment to the Pretreatment program is 23.4 FTE. The MWR's Pretreatment Program implements the programmatic activities required by the Federal Pretreatment Regulations and is organized by the following departments (Note: each of the Divisions are managed by a full time FTE):

- Sector (4 total FTE) – responsible for the IU inventory of the service area, including implementation of the dental, hauled/trucked waste, drycleaners sector control programs. The Sector personnel are also responsible for investigating unusual discharge inspections/investigations. The Sector personnel may conduct preliminary characterizations of the IUs in the service area or may utilizes the Permits/Engineering department for initial screening to determine applicable Pretreatment Standards.
- Permits and Engineering (P&E, 5 total FTE) – responsible for significance determination to the applicable Pretreatment Standards and developing/renewing control mechanisms and other control documents. The engineering department is also responsible for developing local limits, implementation procedures, forms and policies.
- Compliance and Enforcement (C&E, 8 total FTE) – responsible for the inspections and compliance evaluations associated with the control mechanisms. In addition, the personnel are responsible for data entry/management and enforcement of Pretreatment violations.
- Environmental Sampling Team (EST, 1.7 FTE) – responsible for control authority monitoring. The Environmental Sampling Team is not fully dedicated to the

Pretreatment Program, and it appears that its primary responsibility is to conduct compliance sampling for the Hite and NTP POTWs. The EPA recommends the MWR evaluate its commitment to the Control Authority sampling required in the Federal Pretreatment Regulations.

- The Pretreatment Program is managed by a 1.0 FTE Senior Industrial Pretreatment Process Engineering Manager and directly supported by a 1.0 FTE document control staff member. The Pretreatment Program is also supported by other Senior Management personnel and by personnel from Quality Assurance and Legal departments.

The MWR reported in the CY23 Annual Report that its Pretreatment program is budgeted \$3,043,820 and is funded by its Enterprise Fund, generated from residential and non-residential users in the service area. The MWR bills the connectors to the Hite and NTP POTWs, and the connectors directly bills its users within their jurisdictions.

Based on the EPA's review of the MWR's implementation of its Pretreatment program, it appears that the organization of the Pretreatment personnel is an efficient use of its current resources and personnel. However, it appears that MWR needs additional resources in its Sector, P&E and C&E divisions to help with their IU and permit management workload.

- The current workload for the C&E division is approximately 20 SIU permits per Specialist. It appears that based on the EPA's evaluation of the Pretreatment records, the P&E team has a backlog of evaluation for control plans such as slug discharge control (Meati, Specialty Plating), tank management plan/TOMP (Specialty Plating); confidential business information (Meati Foods), and categorical determinations. In addition, managing a significant workload of SIU permits has a potential for errors in compliance evaluation during evaluation of the required compliance reports and notices or during evaluation of slug discharge potential during facility inspections. The EPA recommends MWR develop a SIU permit workload to about 12-15 permits per Specialist.
- The Sector division has a 4-month backlog in the Industrial Waste Inventory and characterization.
- In addition, the EPA has concerns with the EST providing part time sampling support for MWR's Pretreatment program. Based on information gathered during the audit, it appears that the EST primary objective is to sample for MWR POTW compliance, and this results in MWR not having the flexibility to sample its SIUs/IUs on-demand or as needed because of scheduling conflicts. The EPA recommends MWR evaluate the need for a full-time sampling team to ensure the program meets its sampling requirements, including on-demand sampling.

The Pretreatment Regulations at 40 CFR 403.8(f)(3) require MWR to have sufficient resources and qualified personnel to carry out the authorities and procedures described in paragraphs (f) (1) and (2) of this section [*implementation of the Pretreatment Program*]. The MWR is required, at a minimum, to provide a staffing plan to the EPA to ensure the program is adequately implementing the Pretreatment Regulations.

3.3 Examples of Available Pretreatment Training/Resources

This is not a comprehensive list of all Pretreatment related training/resources available. The MWR is encouraged to seek out training and resources that will support its Pretreatment program implementation. The EPA is also available to the MWR for Pretreatment training opportunities and provided facility inspection training during the Pretreatment audit.

The Region 8 Pretreatment workshop provided by Region 8 Pretreatment Association provides training sessions directly related to Pretreatment implementation, updates to upcoming regulations and policies, and networking opportunities.

The EPA provides “Pretreatment 101” webinar training designed to provide consistent national training to local and state Pretreatment programs. The webinar series is located at <https://www.epa.gov/npdes/national-pretreatment-program-training-and-webinars>. Archived presentations may be downloaded, and a schedule of future training opportunities is located at the website.

An additional resource available is the Pretreatment Coordinators Group discussion forum, found at the following website:

<https://groups.io/g/Pretreatment/topics>

4.0 Rules/Regulations and Intergovernmental Agreements

4.1 Legal Authority Background

40 C.F.R. § 403.8(f)(1) of the Pretreatment Regulations states:

“The POTW shall operate pursuant to legal authority enforceable in Federal, State, or local courts, which authorizes or enables the POTW to apply and to enforce the requirements of sections 307 (b) and (c), and 402(b)(8) of the Clean Water Act (Act) and any regulations implementing those sections. Such authority may be contained in a statute, ordinance, or series of contracts or joint powers agreements which the POTW is authorized to enact, enter into or implement, and which are authorized by State law.

At a minimum, this legal authority shall enable the POTW to:

- i. Deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the POTW by Industrial Users where such contributions do not meet applicable Pretreatment Standards and Requirements or where such contributions would cause the POTW to violate its NPDES permit;
- ii. Require compliance with applicable Pretreatment Standards and Requirements by Industrial Users;
- iii. Control through Permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements. In the case of Industrial Users identified as significant under

§403.3(v), this control shall be achieved through individual permits or equivalent individual control mechanisms issued to each such User...

- iv. Require (A) the development of a compliance schedule by each Industrial User for the installation of technology required to meet applicable Pretreatment Standards and Requirements and (B) the submission of all notices and self-monitoring reports from Industrial Users as are necessary to assess and assure compliance by Industrial Users with Pretreatment Standards and Requirements, including but not limited to the reports required in §403.12.
- v. Carry out all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied by Industrial Users, compliance or noncompliance with applicable Pretreatment Standards and Requirements by Industrial Users. Representatives of the POTW shall be authorized to enter any premises of any Industrial User in which a Discharge source or treatment system is located or in which records are required to be kept under §403.12(o) to assure compliance with Pretreatment Standards. Such authority shall be at least as extensive as the authority provided under section 308 of the Act;
- vi. (A) Obtain remedies for noncompliance by any Industrial User with any Pretreatment Standard and Requirement. All POTW's shall be able to seek injunctive relief for noncompliance by Industrial Users with Pretreatment Standards and Requirements. All POTWs shall also have authority to seek or assess civil or criminal penalties in at least the amount of \$1,000 a day for each violation by Industrial Users of Pretreatment Standards and Requirements.

(B) Pretreatment requirements which will be enforced through the remedies set forth in paragraph (f)(1)(vi)(A) of this section, will include but not be limited to, the duty to allow or carry out inspections, entry, or monitoring activities; any rules, regulations, or orders issued by the POTW; any requirements set forth in control mechanisms issued by the POTW; or any reporting requirements imposed by the POTW or these regulations in this part. The POTW shall have authority and procedures (after informal notice to the discharger) immediately and effectively to halt or prevent any discharge of pollutants to the POTW which reasonably appears to present an imminent endangerment to the health or welfare of persons. The POTW shall also have authority and procedures (which shall include notice to the affected industrial users and an opportunity to respond) to halt or prevent any discharge to the POTW which presents or may present an endangerment to the environment or which threatens to interfere with the operation of the POTW. The Approval Authority shall have authority to seek judicial relief and may also use administrative penalty authority when the POTW has sought a monetary penalty which the Approval Authority believes to be insufficient.

- vii. Comply with the confidentiality requirements set forth in §403.14.”

The provisions in 40 C.F.R. § 403.8(f)(1)(i-vii) do not provide local Pretreatment programs with legal authority, but they do establish the minimum requirements for the local municipality to implement the Pretreatment program. A POTW’s legal authority is derived from State law. Therefore, State law must confer the minimum legal authority required by the Pretreatment Regulations on a POTW.

To apply the regulatory authority provided by State law, it is necessary for the POTW to establish local regulations to legally implement and enforce pretreatment requirements. A POTW's legal authority is typically established in a sewer use ordinance as part of the municipality's code, or in the case of a sanitation district, its Rules and Regulations. The EPA's 2007 *Model Pretreatment Ordinance* provides a template for POTWs that are required to develop pretreatment programs and can be found at the following website:

https://www3.epa.gov/npdes/pubs/pretreatment_model_suo.pdf

4.2 MWR Rules and Regulations

The EPA approved the MWR's Pretreatment program on September 10, 1986. According to records maintained by the EPA, the MWR's Rules and Regulations (R&R) were modified on the following dates:

- October 27, 1989
- November 12, 1991, to include the Domestic Sewage Exclusion Regulations.
- April 2, 1996, to include updates to the prohibited discharge, permits, inspections and sampling language.
- June 1, 1999, to include minor modifications.
- June 20, 2000, to include incorporation of the hauled waste program.
- August 9, 2001, to include updates to penalties, confidential business information, hauled waste, prohibited discharges.
- June 6, 2006, to include updates for the Pretreatment Streamlining Rule, prohibited discharges.
- May 1, 2008, to include additional Pretreatment streamlining updates and new penalty authority.
- September 24, 2009, to include updates to expand definition of accidental discharge and upset provisions.

The MWR provided its Pretreatment Legal Authority found in its Rules and Regulations, Sections 1-10, Appendices A & B that were adopted on January 17, 2023. Based on the EPA's review, the Pretreatment Regulations incorporated in MWR's Rules and Regulations provide the MWR the framework to implement the Pretreatment Regulations in the POTW's service area with the following exception: (Note: *the EPA's review of MWR's Rules and Regulations will be enclosed in the audit report –Metro Legal Authority Review.pdf*)

- Submission of all monitoring data [40 C.F.R. § 403.12(g)] – Metro has not incorporated the requirement to submit all monitoring data if the IU monitors any regulated pollutant at the appropriate monitoring point (MP) more frequently than required by Metro and using the approved sampling/analytical methods in 40 CFR 136.
- The EPA recommends Metro establish the authority to gather digital photos during inspections, sampling and other Pretreatment field programmatic activities.

4.3 Inter-Jurisdictional or Governmental Agreements (IGA)

4.3.1 IGA Regulatory Background

A POTW's authority to implement and enforce its approved Pretreatment program is directly related to its regulatory jurisdiction. The POTW's authority is established in ordinance or Rules and Regulations, which are in effect for its service area. Local entities with connectors, or outside jurisdictions to the service area that contribute wastewater, must establish legally binding mechanisms to ensure that all IUs in these outside contributing jurisdictions are subject to enforceable Pretreatment standards and requirements, as required in §403.8(f)(1).

40 C.F.R. § 403.8(f)(1)(i) states, "The POTW shall operate pursuant to legal authority enforceable in Federal, State or local courts, which authorizes or enables the POTW to apply and to enforce the requirements of sections 307 (b) and (c), and 402(b)(8) of the Act and any regulations implementing those sections. *Such authority may be contained in a statute, ordinance, or series of contracts or joint powers agreements which the POTW is authorized to enact, enter into or implement, and which are authorized by State law.*" [Emphasis added]

The local entity that implements the Pretreatment program must either obtain this authority for itself through an IGA or ensure that the outside contributing jurisdiction has both the authority and the obligation to implement and enforce the Pretreatment Standards and Requirements against every IU that discharges to the POTW.

4.3.2 Evaluation of the MWR's IGAs with Outside Contributing Jurisdictions

1. Based on information gathered during the Pretreatment audit, MWR has 57 direct and indirect outside contributing jurisdictions that contribute wastewater to the MWR's Hite and NTP POTWs. The EPA evaluated the individual IGAs for each of the 57 outside contributing jurisdictions. The majority of the IGAs evaluated by the EPA adequately delegate Pretreatment implementation authority to MWR. The EPA has the following observations for MWR to provide additional information or follow up:
 - The IGAs for the following jurisdictions are dated in the 1980's and state they only have residential contributions. MWR needs to provide follow-up to ensure the following jurisdictions consist of residential and do not have non-domestic sources contributing wastewater that could be subject to Pretreatment Standards.
 - Cherry Hills North – IGA dated 6/20/1985.
 - Devonshire Heights – IGA dated 05/21/1985.
 - Mansfield Heights – IGA dated 05/17/1985.
 - Ralston Valley – IGA dated 07/02/1985.
 - The City of Golden has adopted Metro's ordinance in 2007 but there was not an IGA in the Pretreatment records. MWR needs to determine if the City of Golden has a current IGA.
 - West Alameda Heights – No IGA, correspondence states they adopted a

Pretreatment program and have identified Kaiser as the only IU. MWR needs to determine if West Alameda Heights has a current IGA.

5.0 Local Limits

5.1 Local Limits Regulatory Background

40 C.F.R. § 403.8(f)(4) of the Pretreatment Regulations require POTWs that are developing pretreatment programs to develop and enforce specific limits on prohibited discharges or demonstrate that the limits are not necessary. 40 C.F.R. § 403.5(c)(1) states, “Each POTW developing a POTW Pretreatment Program pursuant to §403.8 shall develop and enforce specific limits to implement the prohibitions listed in paragraphs (a)(1) and (b) of this section [*general and specific prohibitions*]. Each POTW with an approved pretreatment program shall continue to develop these limits as necessary and effectively enforce such limits.” [*Clarification and emphasis added*].

The National Pretreatment Program consists of three types of national pretreatment standards established by regulation that apply to industrial users. These include prohibited discharge standards, categorical standards, and local limits. Prohibited discharge and categorical standards are developed by the EPA to establish nationwide Pretreatment Standards. Prohibited discharge standards, comprised of general and specific prohibitions found in 40 C.F.R. 403.5(a) and (b) of the Pretreatment Regulations, apply to all IUs regardless of the size or type of operation. Categorical standards are uniform, technology-based standards that apply to specific process wastewater discharges from industrial categories. These categorical standards are found at 40 C.F.R. Parts 405 through 471.

The EPA’s promulgation of categorical standards does not relieve a POTW from its obligation to evaluate the need for and to develop local limits to meet the general and specific prohibitions in the Pretreatment Regulations. Because specific prohibitions and categorical standards provide only general protection against pass through and interference, local limits based on POTW-specific conditions may be necessary. Local limits are developed by POTWs to enforce the specific and general prohibitions, as well as any state and local regulations.

An EPA-approved Pretreatment program is required to develop local limits that are protective of the POTW, the collection system, and the POTW’s site-specific standards. These site-specific standards may be NPDES permit effluent limits, biosolids limits, environmental criterion, worker health and safety standards or other local standards.

The EPA recommends that POTWs establish their local limits based on the maximum allowable headworks loading (MAHL) calculated for each pollutant of concern. The MAHL approach enables the POTW to calculate local limits considering the portion of the MAHL that is controllable (non-domestic discharges from IUs) from the uncontrollable portion (domestic sources, background concentrations, etc.). A pollutant’s MAHL is determined by first calculating its Allowable Headworks Loading (AHL) for each POTW’s site-specific standard or environmental criterion. Local limit development uses a mass-balance approach to determine the AHLs for a POTW based on the environmental and treatment plant criteria.

An AHL is the estimated maximum loading of a pollutant that can be received at a POTW's headworks, that should not cause a POTW to violate a treatment plant limit or environmental criterion. An AHL is developed to prevent interference or pass through. An AHL is calculated for each applicable POTW site-specific standard: pass through, sludge contamination, air quality standards, and the various forms of interference (i.e. biological treatment inhibition, sludge digestion inhibition). The AHLs for each pollutant of concern (POC) are calculated based on the various suitable environmental criteria, plant flow rates, and plant removal efficiency. After calculating a series of AHLs for each POC, the lowest AHL is chosen as the MAHL.

MAHLs estimate the maximum combined loadings that can be received at the POTW's headworks from all sources. Maximum allowable industrial loadings (MAIL), developed by the POTW, represent the amount of pollutant loadings the POTW can receive from controlled sources (i.e., industrial users, some commercial sources, and some hauled waste) that the POTW chooses to control through local limits. Local limits can take many forms based on how MAILs are allocated by the POTW. The designation and implementation of these MAILs, including the allocation of loadings to SIUs, are left to each POTW. The POTW should provide a reasonable method of allocating the MAIL to the SIUs while ensuring the implementation procedures do not exceed the calculated MAHL. Typically, the POTWs allocate the MAIL as a uniform concentration-based or a mass limit to each SIU.

The local limits should be based on the following:

- Sampling of the service area to develop a representative data set collected for local limits (e.g., influent, effluent, biosolids, commercial, residential, industrial, trucked/hauled waste),
- Evaluation of the current POTW standards/criteria (including, but not limited to: NPDES permit limits/conditions, water quality standards, biosolids standards),
- Identification of the POTW removal efficiency and pollutant partitioning,
- Evaluation of data to ensure it is current and representative of current conditions,
- Identification of pollutants of concern,
- Calculations of loadings and determination of MAHL,
- Development of local limits and allocation methods.

5.2 Local Limits Requirements Established in the MWR's NPDES Permits

The MWR'S Hite and NTP NPDES permits expired on June 30, 2023 – Hite and April 30, 2021 – NTP and are each administratively extended by the CDPHE. The administratively extended permits include local limit requirements in Part I.B.7.C.

5.3 The EPA Evaluation of the MWR's Local Limits

5.3.1 Technically-based Local Limits

MWR's current local limits were submitted and approved by the EPA on May 3, 2022, and are incorporated in §6.18.1 of the Rules/Regs and listed in Table 1. The local limits

applicability language states the following: “No Significant Industrial User shall discharge water or wastes containing pollutant quantities or concentrations exceeding the daily maximum limitations listed in this section.”

Table 1 – Local Limits (MWR Rules and Regulations: §6.18.1)

Pollutant	Symbol	Daily Maximum (lbs/day)
Arsenic, Total	As	0.33
Cadmium, Total	Cd	0.06
Chromium, Total	Cr	3.6
Copper, Total	Cu	6.1
Cyanide	CN	0.30
Lead, Total	Pb	2.2
Mercury, Total	Hg	0.005
Molybdenum, Total	Mo	0.43
Nickel, Total	Ni	5.1
Selenium, Total	Se	0.35
Silver, Total	Ag	2.9
Zinc, Total	Zn	15.6

5.3.2 Numeric Ordinance Limits

In addition to the established technically-based limits and site-specific limits in the municipal ordinance, MWR established the following numeric ordinance limits in §6-14:

- pH [§6.14(3)] – Any Wastewater having a pH less than 5.0 for discharges from Industrial Users or Wastewater having any other corrosive property capable of causing damage or hazard to any part of the Metro System or any Municipal Sewer System.
- LEL [§6.14(1)] – At no time shall any reading on an explosion hazard meter, at the point of discharge into the Metro System or any Municipal Sewer System (or at any point in the Systems), or at any monitoring location designated by Metro in a

Wastewater Discharge Permit, be more than ten percent (10%) of the Lower Explosive Limit (LEL) of the meter.

- Flashpoint [§6.14(16)] – Sewage having a flash point lower than 187°F, as determined by the test methods specified in 40 CFR §261.21.
- TENORM [§6.14(24)] – Any waste or Wastewater containing TENORM Radionuclides - Radium-226, Radium-228, Lead-210, and Polonium-210 in excess of 5 Picocuries/gram (pCi/g). In all cases, discharges of TENORM Radionuclides shall be lower than the EXEMPT levels established by Colorado Code of Regulations (**6 CCR 1007-1 Part 20 et seq.**).

5.3.3 Dilution Prohibition

The MWR has incorporated a dilution prohibition in §6-18-5 of its Rules and Regulations to ensure the IUs are appropriately managing their regulated wastestreams to meet compliance with an applicable Pretreatment Standard or Requirement:

“Except where permitted by Categorical Standards, no Industrial User may increase the use of process water or, in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to attain compliance with the limitations contained in National Categorical Pretreatment Standards or any other specific discharge limitations contained in this Section 6. Metro Water Recovery may set or require a Connector or Contracting Municipality to set mass limitations or alternate concentration-based limitations for those Industrial Users which are using improper dilution to meet these limitations.”

The dilution prohibition language in §6-18-5 meets the requirement in 40 C.F.R. Part 403.6(d) of the Pretreatment Regulations.

5.4 Local Limits Technical Evaluation-Regulatory Background

40 C.F.R. § 122.44(j)(2)(ii) of the NPDES regulations require POTWs to provide a written technical evaluation of the need to revise local limits following permit issuance or reissuance. The technical evaluation is a detailed re-evaluation of data, criteria, conditions, and assumptions on which local limits are based to determine whether any significant changes affecting the local limits have occurred. Chapter 7 of the *Local Limits Development Guidance Manual*, EPA-833-R-04-002A, July 2004 provides guidance on completing the technical evaluation of local limits.

The Annual Pretreatment Reports submitted to the EPA provide the POTW with an opportunity to perform reviews for exceedances of the established MAHL for the POCs, on an annual basis. The POTW compares both the maximum and average influent data for the reporting year against the MAHL to determine if there were any exceedances. In addition, the POTW is required to report biosolids data to determine if there were any changes or concerns with the biosolids loadings. An exceedance of the established MAHL may be indicative of a change in the service area, changes to the POTW operations or changes to domestic or non-domestic loadings and may indicate a need to recalculate the local limits. However, the annual review may not have addressed conditions that can

change over time, such as operating conditions, environmental criteria/standards, data, or assumptions that may make local limits no longer appropriate, protective or legally-defensible.

As a follow-up to MAHL exceedances listed on the annual report and as required during a permit reissuance, a POTW should compare its current conditions and requirements with those that existed when the local limits were developed. The EPA recommends that POTWs determine if re-calculating existing local limits, or developing MAHLs for new pollutants of concern, is necessary in response to the following criteria:

1. Removal Efficiencies
 - a. Modification to the POTW or new POTW brought online.
 - b. Changes in POTW processes or operations that have affected the POTW removal efficiencies.
2. Total POTW or IU Loading
 - a. Significant changes to flow to the POTW.
 - b. Significant changes to loadings to the POTW due to new IUs, changes in loadings at existing IUs or significant growth in the service area.
 - c. Significant changes in loadings from SIUs in the service area.
3. Limiting Criteria
 - a. New or revised NPDES permit limits.
 - b. New or revised biosolids standards.
 - c. Changes in EPA or State Criteria (acute and chronic water quality standards for the receiving waters, reuse water quality criteria) at the time of local limit development to existing criteria.
4. Sludge Characteristics or Method of Disposal
 - a. Changes in loadings to biosolids.
 - b. Changes in biosolids disposal methods.
5. Background Concentrations of Pollutants in Receiving Water

5.5 Technical Evaluation of the MWR's Local Limits

The MWR's renewed NPDES permits for the Hite and NTP POTWs, issued by the CDPHE will include the following requirements for a technical evaluation of the local limits:

“The Permittee shall establish and enforce specific local limits to implement the general and specific prohibitions found in 40 CFR 403.5(a) and (b). The Permittee shall continue to develop these limits as necessary and effectively enforce such limits. Where the Permittee determines that revised or new local limits are necessary, the Permittee shall submit the proposed local limits to the Approval Authority in an approvable form in accordance with 40 CFR 403.18.

In accordance with 40 CFR 122.44(j)(2)(ii), the permittee shall submit to the Division and Approval Authority a technical evaluation of the need to revise or develop local limits in accordance with 40 CFR 403.5(c) and a local limits package if a technical evaluation reveals that development or revision of local limits is necessary. The evaluation shall include, but not be limited to, a consideration of any new or revised numeric and practice-based effluent limits in this permit.”

The MWR will be required to provide a technical evaluation of its current local limits within 12 months after renewal of the administratively extended permit. The reissued permit for each POTW will require a technical evaluation of MWR's current local limits to incorporate current data, current standards, construction or rehab updates to the POTW that result in different removal efficiency, growth in the service area and to incorporate SIU changes in the service area. MWR will be required to submit the technical evaluation to the EPA, as a condition of the reissued NPDES permit and update local limits.

During local limits development in 2022, the MWR and the EPA agreed to allow the approved local limits apply to both service areas of the Hite and NTP POTWs because the NTP POTW was starting up and did not have a significant amount of flow from its service area. MWR will be required to provide a technical evaluation for each POTW separately as a condition of the each NPDES permit.

The EPA recommends MWR develop a service area sampling plan for each POTW. This will allow the MWR to develop a dataset for each POTW's service area current loadings that are representative of potential seasonal variations. In addition, MWR should ensure it gathers a representative dataset of INF-EFF of both the Hite and NTP POTWs to gather current removal efficiency that have resulted from construction updates at each POTW. The EPA requires a minimum of 10 data points in each dataset to ensure adequate data to calculate local limits.

During the local limits technical evaluation or local limits update, MWR should evaluate numeric ordinance limits that are not technically-based such as the incorporation of site-specific numeric limits for HEM, HEM-SGT and BTEX as well as numeric ordinance limits for LEL, flashpoint and TENORM and ensure MWR has developed defensible justification for these adopted limits.

5.6 Permit or Site-Specific Limits

Local municipalities implementing the Pretreatment program should have the ability to establish site or permit-specific limits as deemed necessary to be protective of the POTW. This is a beneficial authority because situations or projects may occur in the service area that the municipality may want to provide control to protect the POTW. However, the current limits in the ordinance may not address the pollutant of concern.

The EPA considers the development of any local limit, whether codified in the municipal ordinance/rules and regulations or developed on a site-specific situation (i.e., permits-specific limit) to be a program modification under 40 C.F.R §403.18 (53 FR 40579, Final Rule, General Pretreatment Regulations for Existing and New Sources, October 17, 1988). The development of any local limit is required to follow the approval and public notice provisions, both at the local level and by submitting to the EPA.

40 C.F.R §403.5(c)(3) of the Pretreatment Regulations states, "Specific effluent limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond." The EPA recommends that POTWs conduct public participation in the local limits process (whether codified in the municipal ordinances/rules and regulations or new limits developed in a permit) as openly as possible.

This may involve notifying the SIUs/IUs and other affected parties of the proposed limits or announcing a 30-day public comment period. This would allow sufficient time for the public to participate, which is a fundamental goal of the Clean Water Act in Section 101(e).

The MWR has established the ability to develop site or permit-specific limits in §6-18-2 of its Rules and Regulations:

“Metro Water Recovery may develop site-specific limits on an as-needed basis. Industrial User compliance with site-specific limits is additional to all other applicable limits specified in this Section 6.18.”

MWR developed site-specific limits that are incorporated in §6.18.2 of the Rules/Regs and listed in Table 2.

Table 2 – Site-Specific Local Limits (MWR Rules and Regulations: §6.18.2)

Pollutant	Symbol	Daily Maximum (mg/L)
Hexane Extracted Materials	HEM	200
Hexane Extracted Materials with silica gel cleanup	HEM-SGT	100
Benzene	--	50 µg/L
Sum – Benzene, Toluene, Ethylbenzene, Xylene	BTEX	750 µg/L

6.0 Pretreatment Operating Procedures

6.1 Regulatory Background

40 C.F.R. §403.8(f)(2) of the Pretreatment Regulations states, “The POTW shall *develop and implement* procedures to ensure compliance with the requirements of a Pretreatment Program.” [*emphasis added*] The Pretreatment Regulations identify these minimum procedures in 40 C.F.R. §403.8(f)(2)(i-viii) to include the following **implementation** activities, summarized below:

- Identify and locate all possible IUs that might be subject to the Pretreatment program,
- Obtain information describing the character and volume of wastes discharged by IUs,

- Notify IUs of all applicable Pretreatment standards and other applicable State or Federal standards or requirements,
- Review self-monitoring reports and other notices submitted by IUs,
- Randomly sample and analyze effluents from IUs,
- Evaluate whether each SIU needs a slug discharge control plan,
- Investigate instances of noncompliance with Pretreatment standards and requirements,
- Comply with public participation requirements.

The requirements listed in 40 C.F.R. §403.8(f)(2) include the **development** of procedures. Adequate and updated standard operating procedures (SOPs) provide the following benefits to a Pretreatment program:

- Develop the baseline knowledge of the Pretreatment Regulations and establish the framework for program implementation,
- Adequately implement the authorities established in the municipal ordinance and ensure consistency in program implementation,
- Retain institutional and historical knowledge developed within the POTW's program, and
- Provide a valuable training resource for new or inexperienced staff members.

Ultimately, the benefits of valid SOPs to the Pretreatment program are increased efficiency, along with improved data comparability, credibility, and legal defensibility. In addition, the development of written SOPs and templates allow the EPA to determine if the procedures adequately implement the legal authority developed in the municipal ordinance/rules and regulations as required in 40 C.F.R. §403.8(f):

“A POTW Pretreatment program must be based on the following legal authority and include the following procedures. These authorities and procedures shall at all times be fully and effectively exercised and implemented.”

6.2 Standard Operating Procedures (SOPs)

The EPA evaluated the MWR's procedures and templates during the audit to ensure these meet the requirements listed in 40 C.F.R. § 403.8(f)(2). As previously discussed, developing SOPs are beneficial for the MWR's Pretreatment program but most importantly, to ensure adequate implementation of the authorities established in the municipal ordinance and ensure consistency in program implementation. EPA considers the Industrial User Inventory and Characterization, Sampling Plan/QA-QC, and the Enforcement Response Plan to be priority and required SOPs to ensure consistent implementation of the MWR's legal authority. EPA evaluated these priority SOPs and provides comments in the following sections within this audit report:

- Industrial User Inventory and Characterization Procedures (*discussed in §7.0*),
- Sampling Plan, Site-Specific Sampling Protocol, Quality Assurance and Quality Control (*discussed in §10.0*), and

- Enforcement Response Plan and Data Compliance Evaluation (*discussed in §11.0*).

The MWR has developed an SOP that addresses the procedures and methods to implement the programmatic activities of the Pretreatment program. Based on the EPA's review of this SOP, it appears to adequately address the requirements of 40 C.F.R. § 403.8(f)(2). The EPA recommends the MWR evaluate the need to update these Pretreatment procedures, as necessary.

6.3 Templates

Templates and checklists are also critical to a Pretreatment program to ensure consistent and appropriate implementation of the Pretreatment regulations. The MWR has developed permit templates for SIUs, trucked and hauled wastes and zero discharge facilities. The EPA's evaluation of the MWR's permit template is included in Section 8.3 of this audit report. The associated fact sheets for these permit templates provide structure and a framework for the permit writer to characterize the facility or source, determine the applicable Pretreatment Standards and establish the appropriate permit conditions.

6.4 Records and Data Management

6.4.1 Regulatory Background

The recordkeeping requirements of the Pretreatment program are established in 40 C.F.R. §403.12(o)(1-3):

“(1) Any Industrial User and POTW subject to the reporting requirements established in this section shall maintain records of all information resulting from any monitoring activities required by this section, including documentation associated with Best Management Practices. Such records shall include for all samples:

- (i) The date, exact place, method, and time of sampling and the names of the person or persons taking the samples.
- (ii) The dates analyses were performed.
- (iii) Who performed the analyses.
- (iv) The analytical techniques/methods use; and
- (v) The results of such analyses.

(2) Any Industrial User or POTW subject to the reporting requirements established in this section (including documentation associated with Best Management Practices) shall be required to retain for a minimum of 3 years, any records of monitoring activities and results (whether or not such monitoring activities are required by this section) and shall make such records available for inspection and copying by the Director and the Regional Administrator (and POTW in the case of an Industrial User). This period of retention shall be extended during the course of any unresolved litigation regarding the Industrial User or POTW or when requested by the Director or the Regional Administrator.

(3) Any POTW to which reports are submitted by an Industrial User pursuant to paragraphs

(b), [baseline monitoring reports] (d), [90-day compliance reports] (e), [categorical industrial user monitoring reports] and (h) [significant industrial user monitoring reports] of this section shall retain such reports for a minimum of 3 years and shall make such reports available for inspection and copying by the Director and the Regional Administrator. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Industrial User or the operation of the POTW Pretreatment Program or when requested by the Director or the Regional Administrator.”

6.4.2 Recordkeeping and Data Management

Based on information gathered during the audit, the working copies of the SIU permits and Pretreatment records are located in the permit manager’s offices in the C&E team and are maintained for at least three years. The SIUs are chronologically organized and include the relevant records such as permit, permit rationale, control plans, inspections, enforcement actions, correspondence, etc.

The Pretreatment records are scanned and are maintained electronically, along with email correspondence as backup/working copies and appear to be complete, however, during the EPA evaluation of these Pretreatment records, it was difficult in many instances to determine the sequential flow of records, including PCRs, notifications, and enforcement actions or determine if permit applications, slug discharge control plans are included in the Pretreatment records. The EPA recommends the MWR evaluate its electronic naming convention to ensure these backup/working electronic copies are organized and as easy to access as the hard copy records.

6.5 *Receipt of Discharge Monitoring Reports and Notifications*

The Pretreatment regulations in 40 C.F.R. §403.8(f)(2)(vii) require a POTW to “Investigate instances of noncompliance with Pretreatment Standards and Requirements, as indicated in the reports and notices required under §403.12 [IU compliance reports], or indicated by analysis, inspection, and surveillance activities [control authority monitoring].” This requires the POTW to ensure adequate receipt and tracking of self-monitoring reports and notifications, have procedures to evaluate the data and information contained within these reports and notices, and determine compliance with the Pretreatment standards (e.g., permit limits and conditions).

MWR has a Document Control Coordinator on staff that processes all reports and notifications received by mail, scans these documents and transmits these electronic records to the C&E department for review, Q&A and compliance evaluation. Based on the EPA’s review, it appears that the Document Control Coordinator plays a vital role in managing the mailed reports and notices and provides consistency in this management. The MWR also has a mailbox located outside its gates for hand delivery of the required reports and notices. The EPA is concerned with the integrity of this mailbox because there is no ability to date/time stamp the receipt of these records and recommends MWR evaluate methods to ensure the integrity of this hand delivery method be improved.

6.6 Management of Confidential Records

40 C.F.R. § 403.14 of the Pretreatment Regulations establishes the public availability of the Pretreatment records and the provisions to establish confidential business information (CBI). The MWR has incorporated the public availability and confidentiality requirements in Section 20.513 of the municipal ordinance:

“Information and data on an Industrial User obtained from reports, questionnaires, permit applications, permits, monitoring programs, and inspections shall be available to the public or other governmental agency without restriction unless the Industrial User specifically designates and is able to demonstrate to the satisfaction of Metro Water Recovery that the release of such information would divulge sales or marketing data, processes, or methods of production entitled to protection as "Confidential Business Information" of the Industrial User. Wastewater constituents and characteristics will not be recognized as confidential information. It shall be the Industrial User's obligation to stamp each page, which has been demonstrated to Metro's satisfaction to contain trade secrets, with the words "Confidential Business Information," "Confidential Information," or "Confidential." A failure by the Industrial User to designate and identify any document in this manner may result in the document losing its protection from disclosure as confidential business information.

Except as required by law, Confidential Business Information shall not be made available for inspection by the public: Such information shall be made available upon request to governmental entities or agencies for uses related to these *Rules and Regulations*, Metro Water Recovery's NPDES/CDPS Permit and/or the Pretreatment Program in accordance with 40 CFR Part 2. Confidential Business Information shall not be transmitted to any governmental agency or entity for other uses by Metro except upon written request and after a ten (10) day notification and right to object is given to the Industrial User. Such notification shall not be required in certain circumstances provided for in 40 CFR Part 2. If after a request for public inspection, a person or entity challenges the determination of any record to protection as Confidential Business Information, the Industrial User shall cooperate, to the fullest extent possible and at the Industrial User's own expense, with Metro in the defense of the determination. At the request of Metro the Industrial User shall, at the Industrial User's expense, provide a defense to such challenge.”

In addition, MWR has developed an SOP regarding CBI on page 25 of its Pretreatment implementation SOP.

“If CBI, the Metro Records Information Management (RIM) will store the materials in a (1) hard copy folder marked CONFIDENTIAL; or (2) digital folder marked CONFIDENTIAL. Included in the folder will be the Memo to File, memorializing the determination regarding confidentiality. Unredacted versions of the document should only be shared with certain government requestors. RIM must confer with OGC in determining whether to release the unredacted version of a document determined to contain CBI.

2. While under CBI review, IPP will identify and protect all documents potentially containing CBI as such. Metro will only release the documents to the requestor, unless requestor directs Metro, in writing, to release the documents to an agent of the requestor.

3. After CBI review has completed, IPP may continue to store redacted and unredacted versions of the documents in their internal filing system. Such storage shall be predicated on ES developing a system to ensure that confidentiality of the documents is kept.”

7.0 Industrial User Inventory and Characterization

7.1 Regulatory Background

The Pretreatment Regulations state in 40 C.F.R. § 403.8(f)(2)(i-iii) that a POTW shall develop and implement procedures to ensure compliance with requirements of a Pretreatment Program. [These requirements are summarized after the regulation language in **bold** and *italics* font].

- i. “Identify and locate all possible Industrial Users which might be subject to the POTW Pretreatment Program. Any compilation, index or inventory of Industrial Users made under this paragraph shall be made available to the Regional Administrator or Director upon request.” ***This requires a POTW to develop and maintain an inventory of IUs in the service area.***
- ii. “Identify the character and volume of pollutants contributed to the POTW by the Industrial Users identified under paragraph (f)(2)(i) of this section. This information shall be made available to the Regional Administrator or Director upon request.” ***This requires a POTW to characterize the IUs in the inventory of the service area.***
- iii. “Notify Industrial Users identified under paragraph (f)(2)(i) of this section, of applicable Pretreatment Standards and any applicable requirements under sections 204(b) and 405 of the Act and subtitles C and D of the Resource Conservation and Recovery Act. Within 30 days of approval pursuant to 40 C.F.R. 403.8(f)(6), of a list of significant industrial users, notify each significant industrial user of its status as such and of all requirements applicable to it as a result of such status.” ***These procedures must include the notification of IUs of applicable Pretreatment Standards and other applicable requirements.***

The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(6) state, “The POTW shall prepare and maintain a list of its non-domestic or Industrial Users meeting the criteria in §403.3(v)(1). The list shall identify the criteria in §403.3(v)(1) applicable to each Industrial User and, where applicable, shall also indicate whether the POTW has made a determination pursuant to §403.3(v)(2) that such Industrial User should not be considered a Significant Industrial User. The initial list shall be submitted to the Approval Authority pursuant to §403.9 or as a non-substantial modification pursuant to §403.18(d).”

Approved Pretreatment programs are required by the Pretreatment Regulations to understand their service area and outside contributing jurisdictions, by developing and maintaining an inventory of IUs. In addition, the Pretreatment Regulations require a Pretreatment program to characterize the IUs listed on the inventory and notify the IU of their status under the Pretreatment program. For example, the following characterizations may apply to an IU, based on information received from questionnaires, drive-by or facility inspections:

- The IU is not characterized as significant, based on volume and characteristic of the discharged wastewater.
- The IU is characterized as significant and issued a permit.
- The IU is not characterized as significant, but loadings need to be controlled using BMPs in a source control program.
- The IU is generating wastewaters that are significant but is characterized as a zero-discharging facility.

The **Industrial Waste Inventory and Characterization** or industrial waste survey (IWS)/IU inventory procedures are an important component to an effective Pretreatment program because this is a POTW's first exposure to the IUs, allows the POTW to determine if an IU is significant, notify the IU of its status under the Pretreatment regulations, and determine the appropriate type of control mechanisms for these facilities to protect the POTW and collection system.

7.2 Industrial User Identification and Characterization Procedure

The Pretreatment Regulations at 40 C.F.R. §403.8(f)(2) require the MWR to “develop and implement procedures” that “enable the POTW” to comply with these Pretreatment Program requirements. MWR developed procedures in Section 3 of its Pretreatment SOP that identifies the industrial and commercial facilities contributing non- nondomestic wastewater to the collection system and to characterize the types and amounts of pollutants that are discharged. The Industrial Waste Survey SOP is organized into the following objectives and describe the methods used to accomplish each objective:

1. Compiling a comprehensive list of IUs that are in Metro's service area.
2. Collecting information from IUs
3. Conducting follow-up activities
4. Reviewing of Industrial Waste Survey Data
5. Tracking of the Industrial User Inventory
6. Identifying Industrial Users from further concern
7. Eliminating Industrial Users from further consideration
8. Maintaining the Industrial Waste Survey inventory

7.3 Industrial User Database of the MWR's Service Area

40 C.F.R. § 403.8(f)(2)(i-iii) of the Pretreatment regulations require the MWR to identify and locate all IUs in its service area, identify the character and volume of pollutants contributed by these IUs based on current information, and notify these IUs of applicable Pretreatment Standards and Requirements. The MWR service area is composed of approximately 40,000 IU and the Sector unit is primarily responsible for implementing the IU inventory of the service area and characterize IUs within the inventory. The Sector unit uses a variety of tools to identify new IUs in its service area such as Google Maps, building department permits from the connectors, sewer tap report from the Finance department, unusual observations and performing a complete drive-by of its entire service area every three years. The Sector unit may perform limited site inspections, as necessary. In addition, the MWR has formalized IU inventory and characterization processes with its connectors

that has helped with data gathering for new IUs to the service area or changes to existing IUs. As a result of consistent processes and improved methods for identifying IUs, the MWR has increased the number of IUs in its inventory from 18,000 in 2018 to about 40,000 currently. In addition to the MWR current tools and methods used to identify IUs in its service area, the EPA recommends MWR collaborate with Fire Departments within its service area because they routinely conduct inspections of IUs for fire safety and may provide additional information regarding potential for significant process/wastewater generation or spill/slug potential in the service area.

The existing or new IUs in the MWR service area are hard coded within the Survey Module within the IPACS database system and may be evaluated by the Sector unit to determine if the wastewater discharged from these IUs are subject to applicable Pretreatment Standards. The P&E unit receives IU information from the Sector unit and may perform a more detailed inspection and will develop and submit a notification/decision letter to the IU regarding if they are subject to any applicable Pretreatment Standard and their characterization under Pretreatment program. Based on information gathered during the audit, it appears that the Sector unit has a 4-month backlog on identifying and characterizing IUs in its service area. In addition, it appears that the P&E unit has a backlog of about 20 IUs that need characterization and notification and a backlog of about 10 IUs that need a permit, based on their characterization.

The MWR provided its current inventory of the IUs in its service area. Based on the EPA's review of this inventory, it appears that the MWR has dramatically increased its IUs contained in its inventory to about 40,000 IUs and this appears to be current of its service area. The characterization and cleanup of the IU inventory is an ongoing challenge due to the MWR's significantly large service area encompassing many connectors and municipalities and the MWR has an approximately 4-month backlog to clean up the information/data gathered in identifying and characterizing IUs in the service area. Due to the size and complexity of the MWR service area, the MWR should evaluate their current resource commitment to the Sector unit.

The EPA currently provides "Pretreatment 101" webinar training, and a training for "Industrial User Inventory and Characterization Procedures," provided in September 2010, is archived at the following website:

<https://www.epa.gov/npdes/national-pretreatment-program-events-training-and-publications#pretreat101>

8.0 Control Mechanism (Permit) Evaluation and Permit Specific Issues

8.1 Regulatory Background

POTWs are required to issue control mechanisms to IUs identified through IU Inventory and Characterization procedures as SIUs. Individual permits or general control mechanisms authorize the discharge of wastewater to a POTW upon condition that the discharger complies with the permit limitations and conditions. An SIU permit is effective for only a limited period and should be revocable by the issuing authority at any time for just cause. In addition, the POTW's legal authority will typically include a provision that

forbids the discharge of industrial wastewater from a SIU without a current permit.

The Pretreatment Regulations establish the required permit conditions in 40 C.F.R. § 403.8(f)(1)(iii)(B)(1-6) that include the following minimum elements:

1. Statement of duration (in no case more than five years);
2. Statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator;
3. Effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards, categorical Pretreatment Standards, local limits, and State and local law;
4. Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored, sampling location, sampling frequency, and sample type, based on the applicable general Pretreatment Standards, categorical Pretreatment Standards, local limits, and State and local law;
5. Statement of applicable civil and criminal penalties for violation of Pretreatment Standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond applicable federal deadlines;
6. Requirements to control Slug Discharges, if determined by the POTW to be necessary.

The reporting and notification requirements in permit condition #4 above are found in 40 C.F.R. § 403.12 of the Pretreatment Regulations and include the following:

- Baseline Monitoring Reports – 403.12(b)
- Compliance Schedule Progress Reports – 403.12(c)
- 90-Day Compliance Reports – 403.12(d)
- CIU Periodic Compliance Reports – 403.12(e)
- Notice of Potential Problems, including Slug Loading – 403.12(f)
- Notification of Changes Affecting Slug Discharge Potential – 403.8(f)(2)(vi)
- 24-Hour Non-Compliance Notification – 403.12(g)
- SIU Periodic Compliance Reports – 403.12(h)
- Notification of Changed Discharge – 403.12(j)
- Notification of Hazardous Waste Discharge – 403.12(p)
- Notification of Bypass – 403.17

Under general principles of administrative law, permit applicants and other interested parties may challenge the POTW's permit decisions, including the permit limitations and conditions and the POTW's authority to issue the permit. The POTW must ensure that it has the requisite legal authority to impose Pretreatment Standards and Requirements in SIU permits and that it exercises its authority in a consistent and non-arbitrary manner. The local ordinance must clearly provide the POTW with the following authorities to support the permit requirements found in 40 C.F.R. § 403.8(f)(1)(iii):

- Authority to regulate all Industrial Users contributing wastewater to the POTW.

- Authority to require and issue permits, orders, or other control mechanisms, including:
 - Authority to require Industrial Users to submit all data that the POTW deems relevant to permit decisions and provisions for public access to data.
 - Authority to enter, inspect, and sample to verify information supplied by the Industrial User as well as to assess the Industrial User's compliance status.
 - Authority to incorporate local limits, including BMPs (if applicable).
 - Authority to incorporate federal and state Pretreatment Standards and Requirements.
 - Authority to require self-monitoring, record keeping, reporting, and notifications by the permittee.
 - Authority to develop other appropriate permit conditions.
- Authority to enforce sewer use ordinance and discharge permit violations.
- Authority to require the development of a slug discharge control plan.

The POTW is required to establish the legal authority to require an IU to complete and file a permit application, with current information, to receive an initial or reissued permit. A permit application enables the POTW to obtain the information necessary to characterize the facility, to evaluate the quality and quantity of wastewater discharged, or projected to be discharged for a new facility, and to determine the applicable Pretreatment Standards and controls. The permit application serves as the formal request from the IU to discharge to the POTW and is required to be signed by a responsible corporate officer of the IU, as defined in 40 C.F.R. § 403.12(l) of the Pretreatment Regulations. In addition to the permit application, the POTW should evaluate, if available, historic IU effluent data, compliance reports, previous inspection reports, Safety Data Sheets, etc.

Throughout the permit drafting process, the POTW should carefully and thoroughly document each step in a permit rationale or statement of basis. A statement of basis is a document that provides a justification of the permit conditions and limits based on a characterization of the IU, its wastewater discharge, and the applicable Pretreatment Standards and Requirements. The statement of basis should include a description of the facility's production, process(es), wastewater generation/management, and discharge locations to adequately characterize the facility. The statement of basis should also identify the appropriate Federal, State, and Local Pretreatment Standards, based on the IU's characterization; and should provide justification for permit conditions and requirements, such as pollutants of concern, monitoring/reporting frequencies, representative sampling types, notification requirements, slug discharge control, operation and maintenance requirements, etc.

The statement of basis facilitates defending any challenges that the permit terms and conditions were developed arbitrarily or capriciously and provides the required documentation in the permit record of any relief from otherwise applicable requirements (i.e., pollutants not expected to be present, equivalent limits, decisions on general control mechanisms, decisions on Non-Significant Categorical Industrial User (NSCIU) classification, and decisions on reduced monitoring requirements). In addition, the statement of basis can serve as a resident document to preserve institutional knowledge and continuity for new or different staff members.

The EPA updated the IU Permitting Guidance Manual, 833-R-12-0001A in September 2012. This guidance manual supports the implementation of the permit conditions found in 40 C.F. R. § 403.8(f)(1)(iii)(B)(1-6) of the Pretreatment Regulations. The guidance manual is intended to provide both new and experienced permit writers with conceptual support and specific examples to strengthen their permit development expertise. The guidance manual references technical guidance developed by the EPA regarding local limits, enforcing Pretreatment Standards and Requirements, controlling hauled waste, information regarding compliance inspections and sampling, and BMPs.

The IU Permitting Guidance Manual can be found at the following website:

https://www.epa.gov/sites/production/files/2015-10/documents/industrial_user_permitting_manual_full.pdf

8.2 The EPA's Evaluation of the MWR's Permitting Legal Authority

The EPA evaluated the MWR's municipal ordinance to ensure it provides an adequate framework to require permit coverage, to deny or condition non-domestic wastewater contributions and to establish adequate permit conditions.

- Sections 6.22.3 and 6.22.4 – establish the authority for the MWR to deny or condition non-domestic wastewaters discharged to its collection system.
- Section 6.22.5 –establishes the requirement for SIUs and CIUs to obtain a wastewater discharge permit.
- Section 6.22.2 – contains the permit application contents.
- Section 6.22.5 – establishes the permit conditions to prevent Passthrough or Interference and to protect the POTW, worker health and safety, biosolids and the receiving stream water quality.
- Section 6.22.7 – establishes the permit duration to not exceed five years and reapplication to be submitted a minimum of 180 days prior to the expiration or the existing permit.

8.3 Permit Template Overview

EPA evaluated the MWR's permit template to ensure the MWR is incorporating the required permit conditions found in the Pretreatment Regulations at 40 C.F.R. § 403.8(f)(1)(iii)(B)(1-6) and Section 6.22.5 of the MWR's Rules and Regulations. The EPA's review is summarized below and included in the Metro Permit Template Review.docx enclosed with this audit report.

MWR has incorporated PFAS investigation and monitoring in the permit template to address the PFAS memorandum issued by the EPA on December 12, 2022 and the permit template incorporates the permit conditions required in the Pretreatment Regulations and the MWR Rules and Regulations, with the following exceptions:

- *Submission of all Monitoring data* [40 CFR 403.12(g)(6)] – the Federal Pretreatment Regulations state the following: “If an Industrial User subject to the reporting requirement in [paragraph \(e\)](#) or [\(h\)](#) [*compliance reports*]of this section

monitors any regulated pollutant at the appropriate sampling location more frequently than required by the Control Authority, using the procedures prescribed in [paragraph \(g\)\(5\)](#) [40 CFR 136] of this section, the results of this monitoring shall be included in the report.” [*emphasis added*]. This permit condition is not incorporated in the permit template.

- Process for Seeking a Waiver for Pollutants Not Present or Expected to be Present – 403.12(e)(2) – this optional Pretreatment Streamlining requirement was adopted by the MWR in Section 6.22.5(4) of its Rules and Regulations. The permit template does not include this in the permit template for this SIUs that chooses to apply for Pollutants not Present.

The MWR needs to update its permit template to include the absent permit conditions required in the Pretreatment Regulations at 40 C.F.R. § 403.8(f)(1)(iii)(B)(1-6) and Section 6.22.5 of the MWR’s Rules and Regulations.

8.4 *Specific Permit Record Findings*

MWR has identified, at the time of the audit, 121 IUs that have been determined to be significant and that have been issued a permit under the Pretreatment program. Forty-five of this IUs are identified as zero-discharge facilities and are issued permits prohibiting discharge of non-domestic wastewater and the rest are significant industrial users subject to Pretreatment Standards found in the local limits developed by MWR or categorical Pretreatment Standards promulgated by the EPA.

Findings from the EPA’s review of the Pretreatment records, including the facility inspection report, statement of basis, permit, compliance evaluation, and enforcement records are listed below:

8.4.1 Permit records Overview

1. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(ii) require the MWR to “Identify the character and volume of pollutants contributed to the POTW.” The SIU inspection reports include detail regarding the SIU’s chemical storage/handling/transfer, process/unit operations, wastestream generation from these unit operations, wastestream management or wastewater treatment, and sampling procedures to provide a current characterization and process or treatment plant changes. However, based on the review of the Pretreatment records and Meati Foods facility inspection conducted by the EPA on April 18, 2024, MWR needs to evaluate its information gathering during inspections to ensure it adequately evaluate slug discharge potential, including spills and non-routine batch discharges at the permitted SIUs and zero-discharge facilities, as required in the Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(vi).
 - a. In addition, during the EPA’s review of Pretreatment records, it appears that the inspection report’s narrative is carried over from the previous year’s inspection report. The EPA cautions MWR to ensure it does not rely on this narrative when performing information gathering during SIU inspections and asks open-ended questions to capture current conditions. The EPA

- recommends the inspection personnel consider “trading SIU inspection responsibilities” from time to time to get a fresh or different perspective when inspecting SIUs in the service area.
- b. MWR should gather digital photos during SIU inspections to provide current photos of areas relevant to the Pretreatment permit, including but not limited to floor drains, unit operations, raw material/chemical storage, spills/slug discharges, applicable chemical handling equipment, wastestreams, treatment.
 - c. MWR should evaluate its current IU inspection form to determine if it is an adequate tool to characterize IUs in its service area. The EPA provided its facility inspection report form for MWR to evaluate. In addition, the Region 8 Facility inspection form is enclosed with this audit report.
2. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(iii) require the MWR to “Notify Industrial Users identified under paragraph (f)(2)(i) of this section, of applicable Pretreatment Standards...” Based on the EPA’s review of the Pretreatment records, MWR is adequately providing follow up after an inspection to provide notice to the SIU or IU of applicable Pretreatment Standards.
 3. Fact Sheets/Permit Rationale: Based on the EPA’s review, the fact sheets adequately capture current conditions at the SIUs, identifies applicable Pretreatment Standards and justifies permit conditions, including the most stringent permit limits based on an evaluation of all Pretreatment Standards, representative monitoring type/frequencies based on the SIU’s wastewater discharge and recent compliance history, reporting frequency and reportable data, TOMP requirement, requirement for slug discharge control plan based on current conditions.
 - a. As discussed in the facility inspection reports, MWR should ensure it identifies slug discharge potential in the fact sheet and ensure adequate control is established in slug discharge plans or provide justification on why a slug discharge control is not necessary.
 4. Compliance Evaluation: MWR has developed and uses periodic compliance reports (PCR) checklists during the evaluation of the PCR to ensure completeness of the report and compliance with the reporting deadline and permit limits/conditions. The PCR checklist appears to be a great diagnostic tool for MWR and ensures consistency during compliance evaluation. The EPA recommends MWR ensure these PCR checklists are specific to each SIU permit conditions and limits.
 5. Slug Discharge Control Plans: The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(vi) requires the MWR to evaluate whether each Significant Industrial User needs a plan or other action to control Slug Discharges. For purposes of this subsection, a Slug Discharge is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch Discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the POTW’s regulations, local limits or Permit conditions.

- a. Based on the EPA's review of the Pretreatment records and the Meati facility inspection performed by the EPA on April 18, 2024, the MWR needs to prioritize its evaluation of slug discharges (potential for spills, accidental or non-routine discharges) at SIUs and ensure the current slug discharge control plans adequately capture current conditions and provide appropriate control of slug discharges.
6. The Pretreatment records are well organized, the working copies of documents are kept in the permit manager's offices in the C&E team. The Pretreatment records are scanned and are maintained electronically, along with email correspondence as backup/working copies.
 - a. However, based on the EPA's review of the electronic Pretreatment records, it was difficult in many instances to determine the sequential flow of records, including periodic compliance reports, notifications, and enforcement actions or determine if applicable documents such as permit applications, and slug discharge control plans are included in the Pretreatment records. The EPA recommends the MWR evaluate its electronic naming convention and records management to ensure these backup/working electronic copies are organized and as easy to access as the hard copy records.

8.4.2 Specialty Plating

1. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(iii) require MWR to "Notify Industrial Users identified under [paragraph \(f\)\(2\)\(i\)](#) of this section, of applicable Pretreatment Standards and any applicable requirements..." This includes control documents associated with the SIU permit such as slug discharge control plans and toxic organic management plans (TOMP). Based on the EPA's review of the Specialty Plating Pretreatment records, it was unclear if the MWR evaluated or approved the required control documents. The MWR is required to ensure its Pretreatment records are current and that MWR adequately follow up with the evaluation, approval and file record keeping of the required control documents.

The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(vi) require a POTW to evaluate whether each such Significant Industrial User needs a plan or other action to control Slug Discharges. A Slug Discharge is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch Discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the POTW's regulations, local limits or Permit conditions.

Based on the EPA's review of the Specialty Plating Pretreatment records, there is uncertainty if an adequate slug discharge control plan has been developed that is representative of the facility's current conditions, whether this slug discharge control plan is approved by MWR or if this slug discharge control plan is maintained in the facility records.

- a. The Pretreatment records include a January 17, 2023, MWR approval for a

slug discharge control plan “Metro Water Recovery (Metro) has reviewed and approved Specialty Plating, Inc.’s (Specialty Plating) Spill Prevention and Control Plan (SPCP, Revision E) dated April 13, 2022.” However, the EPA did not find a slug discharge control plan in the records.

- b. It appears that the SIU submitted a Toxic Organic Management Plan (TOMP) on November 9, 2023, with an attached Tank Management Plan that contains discharge characteristics and frequencies from the spent chemical solution tanks. Based on the EPA’s review of the 2023 inspection report, the Tank Management Plan is under review by the P&E. The approval of Specialty Plating’s Tank Management Plan appears to be delayed, and it does not appear that MWR has provided feedback to the SIU. In addition, the EPA is uncertain if this information is part of the TOMP or a slug discharge control plan.
 - c. The MWR is required to ensure a current slug discharge control plan, representative of the SIU’s current conditions, is developed by the facility and is maintained in the Pretreatment records.
2. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(v) require MWR to “Randomly sample and analyze the effluent from Industrial Users and conduct surveillance activities in order to identify, independent of information supplied by Industrial Users, occasional and continuing noncompliance with Pretreatment Standards. Inspect and sample the effluent from each Significant Industrial User at least once a year,...” The sampling protocols developed for Specialty Plating provide an excellent framework for Control Authority sampling events.

8.4.3 Niagara Bottling

1. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(1)(iii) require the MWR to “Control through Permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements.” The permit conditions are established in 40 C.F.R. § 403.8(f)(1)(iii)(B)(1-6) and require at a minimum, applicable effluent limits and monitoring and reporting requirements for pollutants of concern. The Niagara Bottling permit amendment issued on March 31, 2023, establishes permit limits for As, Cd, Cr, Cu, Pb, Hg, Mo, Ni, Se, Ag, Zn, pH, and CN. All permit limited parameters have associated monitoring requirements except for Cd, Pb, Hg and Ag. MWR is required to ensure all permit-limited parameters, including Cd, Pb, Hg and Ag have associated monitoring requirements.

8.4.4 Sundyne LLC

1. The Pretreatment Regulations at 40 C.F.R. § 403.12(g)(3) require that compliance reports must be based upon data obtained through appropriate sampling and analysis performed during the period covered by the report, which data are representative of conditions occurring during the reporting period. The

Sundyne zero discharge permit at Section B.1 requires the following: “A Zero Discharge Compliance Certification Report (Report) must be completed, signed and submitted to Metro at 6450 York Street, Denver, CO 80229-7499, no later than December 31 of each calendar year.” The compliance monitoring period for the zero discharge permit ends on December 31 annually and a report submitted before the end of the compliance period would not encompass the entire compliance monitoring period and as a result, be incomplete. MWR needs to ensure the annual zero discharge certification report is received after the time period is completed, which is December 31 of each calendar year.

2. The 2023 facility inspection report states that the facility is zero discharge and evaporates the regulated phosphating wastewaters generated at the facility. The EPA recommends the inspection reports for zero discharge facilities include a water balance including but not limited to tank capacities, generation of wastewater (volume and frequency) from regulations unit operations and an evaluation on the operation and maintenance of the evaporation unit used to maintain its zero-discharge status.

8.4.5 U.S. Mint

1. MWR established permit limits by using a building block approach for the production-based standards found in 40 CFR 468.14(f) annealing, (j) alkaline cleaning bath, (h) alkaline cleaning rinse, (o) burnishing, and (q) miscellaneous wastewaters.
2. The sampling protocols for U.S. Mint provide an excellent framework for Control Authority sampling events. However, the EPA recommends MWR update the 2024 sampling protocol to include PFAS and HEM, HEM-SGT – added in the February 1, 2024, permit renewal.
3. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(vii) require MWR to “Investigate instances of noncompliance with Pretreatment Standards and Requirements, as indicated in the reports and notices.” Based on the EPA’s review of the Pretreatment records, the U.S. Mint did not sample for As, Cd, Hg, Ag and Se in 2022 as required in its permit on an annual frequency. MWR needs to provide an enforcement action for his failure to sample in 2022, according to its ERP.
4. The EPA performed a facility inspection of the U.S. Mint on April 17, 2024. The inspection report was submitted to the facility on May 15, 2024. The EPA had no follow-up action items from the EPA facility inspection.

8.4.6 McDonald Farms

1. The Pretreatment Regulations at 40 C.F.R. § 403.12(g)(3) require that compliance reports must be based upon data obtained through appropriate sampling and analysis performed during the period covered by the report, which data are representative of conditions occurring during the reporting period. Based on the EPA’s review of the Pretreatment records, some of the periodic compliance reports (PCR) submitted by McDonald Farms are not

complete because the required “no discharge” option is not consistently checked when the facility is reporting no discharge. MWR needs to ensure the PCR submitted by McDonald Farms are accurately completed including checking the “no discharge” option if no discharge occurs during the reporting period.

2. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(vi) require a POTW to evaluate whether each such Significant Industrial User needs a plan or other action to control Slug Discharges. A Slug Discharge is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch Discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the POTW's regulations, local limits or Permit conditions. McDonald Farms had a leaky sludge return valve on the sock filter immediately upstream of MP 001 in December 2022. The facility's slug discharge control plan or spill plan needs to include a description of maintenance conducted, or inspections of the sludge return valve on the sock filter immediately upstream of MP 001 and other applicable valves to minimize or eliminate the potential for slug discharges.

8.4.7 Meati Foods

1. The Pretreatment Regulations at 40 C.F.R. § 403.14(b) state: “Information and data provided to the Control Authority ...which is effluent data shall be available to the public without restriction.” Based on the EPA's review of the Pretreatment records, Meati Foods is stamping the submitted PCRs as confidential. Effluent data are not confidential business information. MWR is required to determine if Meati Foods is submitting confidential information in the PCRs and ensure information and effluent data provided to MWR is available to the public in compliance with 40 C.F.R. § 403.14(b).
2. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(ii) require the MWR to “Identify the character and volume of pollutants contributed to the POTW.” The EPA conducted a facility inspection of Meati Foods on April 18, 2024, and the report was submitted to the facility on April 29, 2024. Based on the observations from the April 18, 2024, facility inspection, Meati Foods is required to provide follow-up to MWR to address the following:
 - a. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(vi) require a POTW to evaluate whether each such Significant Industrial User needs a plan or other action to control Slug Discharges. A Slug Discharge is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch Discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the POTW's regulations, local limits or Permit conditions. During the review of the Pretreatment records and gathering information during the April 18, 2024, facility inspection, the facility's current slug discharge control plan does not address current conditions at the facility that have a potential for slug discharge. MWR needs to ensure Meati Foods updates its slug discharge control plan to address the

following potential slug discharges at the facility:

- i. Meati Foods has a significant potential of off spec fermentation batches. At the time of the facility inspection, the off spec or non-routine batches were dumped to the wastewater treatment system, after calculations of the phosphorus loading limits implemented by the MWR October 3, 2023, permit modification. However, it does not appear the facility is considering other compliance limits in the MWR permit when determining the management of these non-routine or slug discharges.
 - ii. The facility has not constructed adequate structures or measures to contain leaks or spills that may occur during the outside delivery of bulk sugar or high fructose corn syrup to the North Plant.
 - b. The update to the slug discharge control plan must include procedures to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, and/or measures and equipment for emergency response. In addition, the update must include immediate notification and follow up reports of slug discharges, as required by Section F.3 of Permit #11843-1-1A.
3. During the inspection, the EPA and facility representatives discussed the pH monitoring conditions at MP 002 during situations where it does not appear that discharges are occurring. According to Mr. Johnston and Mr. Rau, when a discharge is not occurring, wastewater remains in the pipe and results in erroneous pH readings because there is not an active discharge from the EQ tank. The EPA is uncertain whether pH measurements during periods of no discharge are a result of “pH drift”. It is possible that the pH measurements reflect wastewater quality occurring downstream in the collection system, as a result of biological activity and the effect on pH. Based on information gathered during the inspection, the facility uses potassium hydroxide to neutralize pH, because of biological activity in the fermentation process. The EPA recommends the facility investigate the discharge of mycelium biomass at MP 001 and MP 002, the resulting biological activity that may impact pH and ensure it is adequately controlling its impact to the City of Thornton’s sewer collection system and MWR Northern Treatment Plant.
 4. The Pretreatment Regulations at 40 C.F.R. § 403.12(g)(3) require that compliance reports must be based upon data obtained through appropriate sampling and analysis performed during the period covered by the report, which data are representative of conditions occurring during the reporting period. Based on observations during the facility tour, the sample probe for the ISCO automatic sampler was incorrectly placed in the converging section of the Parshall flume at MP 001. The placement of the probe affects the wastewater flow, upstream of the primary flow monitoring device, potentially resulting in erroneous flow measurements.

- a. The ISCO automatic sampler probe must be placed in the diverging section of the Parshall flume or downstream of the primary flow monitoring device to ensure the probe does not affect flow monitoring and is representative of conditions.

8.4.8 Denver Metal Finishing

1. MWR identified a new process line #10 that has been added to DMR's process wastewater stream. An evaluation was conducted and determined the process line would be subject to Pretreatment Standards for New Sources, while Lines 1-8 would remain applicable to Pretreatment Standards for Existing Sources (note line #9 is no longer operational). The Combined Wastestream formula has been used and documented in the Fact Sheet to allocate for both PSNS, PSES, and non-domestic wastewater which passes through MP001. The EPA acknowledges the MWR in its permit writing to address the new wastestream and the impact on the permit conditions.
2. An updated fact sheet for Permit No. 180-11-1A was issued on December 29, 2023, and went into effect February 1, 2024, to include MWR's updated local limits, clarifications on flow measurement device sizing and installation requirements and modified resampling requirements. The cadmium local limit was designated in the fact sheet as 0.6 mg/l daily maximum, however, the local limit is 0.06 mg/l. The correct local limit is accurately reflected in the Permit No. 180-11-1A. The EPA recommends MWR update the fact sheet to reflect the correct Cadmium local limit and ensure consistency.
3. DMF submitted periodic compliance reports in January 2022, October 2022, and October 2023 that were stamped by MWR as received one day past due date required in the permit. It appears that these periodic compliance reports are hand delivered in the MWR mailbox located outside the POTW fence and it appears that MWR does not consistently receive and date stamp the compliance reports as soon as they are hand delivered. The EPA discussed with MWR opportunities to modify procedures for hand delivery of PCRs to ensure submitted reports are confirmed received in timely manner.
4. During the EPA's review of the Pretreatment records, the MWR Control Authority Monitoring conducted for 2022 was not located in the records. However, MWR quickly located and uploaded MWR's 2022 monitoring data which was reviewed with no additional concerns. The EPA appreciates the responsiveness in locating and updating files.

8.4.9 Rocky Mountain Bottling Company (RMBC)

1. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(iv) require MWR to "Receive and analyze self-monitoring reports and other notices submitted by Industrial Users..."
 - a. RMBC submitted periodic compliance reports on October 2022, January 2023, March 2023, April 2023 that were date stamped by MWR as received past the due date required in the permit. The EPA discussed with

MWR the issue with the hand delivery mailbox located outside the fence line near the guard shack and the importance of date stamping reports and notices as soon as feasibly possible. The EPA recommends the MWR evaluate opportunities to modify procedures for hand delivery of PCRs to ensure submitted reports are confirmed received in timely manner.

- b. Based on the EPA’s review of the RMBCs Production Data Sheets used to report discharged pollutant mass, an error was identified in calculating the Monthly average from March 2022 to December 2022. The total number of daily average samples were not being used, and subsequently additional 0.0 values were being included. All Monthly averages were recalculated and did not result in any permit effluent exceedances. The MWR is required to consistently review SIUs calculations sheets for accuracy and compliance evaluation.
2. The Pretreatment Regulations at 40 C.F.R. § 403.12(g)(6) requires RMBC to include in the compliance report any additional monitoring of the regulated pollutant sampled at the appropriate sampling location more frequently than required by the Control Authority, using EPA-approved methods found at 40 C.F.R. § 136.
 - a. Based on the EPA’s review of the January 2023 periodic compliance report, RMBCs second required sample collection for the month failed and RMBC was not able to meet the twice monthly sampling requirements. MWR issued a Notice of Violation for the missed sampling event and RMBC collected a make-up sample in February 2023 in addition to the two monthly required sampling events. However, only the two required sampling events were used to calculate the Monthly average for compliance purposes. RMBC needs to submit, and include in monthly calculations, all monitoring data collected at the Monitoring Point and in compliance with approved sampling/analytical methods in 40 CFR 136.

8.4.10 Darling Ingredients

1. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(iv) require MWR to “Receive and analyze self-monitoring reports and other notices submitted by Industrial Users...” The periodic compliance reports submitted by Darling Ingredients do not appear to be consistent in the monitoring points. The January – March 2023 periodic compliance report designate MP001, and the April-December 2023 periodic compliance report designate MP002. MWR has raised the appropriate monitoring point with the SIU and is working directly with facility to confirm appropriate location and correct reporting. MWR is required to verify sampling location where Darling is collecting monitoring events to ensure representative monitoring.
2. Darling Ingredients submitted periodic compliance reports January 2022, October 2022, and March 2023 that were date stamped as past due. The EPA discussed with MWR the issue with the hand delivery mailbox located

outside the fence line near the guard shack and the importance of date stamping reports and notices as soon as feasibly possible. The EPA recommends the MWR evaluate opportunities to modify procedures for hand delivery of PCRs to ensure submitted reports are confirmed received in timely manner.

8.4.11 Ziegenfelder Company, Inc.

1. A new sampling protocol was implemented by MWR in 2022 for this SIUs. This new format is well laid out and thorough in providing guidance, background and instructions to the Environmental sampling team.
2. Ziegenfelder submitted a periodic compliance report for the monitoring period January through March or Q1 2023 that was received, and date stamped past the due date. The EPA discussed with MWR the issue with the hand delivery mailbox located outside the fence line near the guard shack and the importance of date stamping reports and notices as soon as feasibly possible. The EPA recommends the MWR evaluate opportunities to modify procedures for hand delivery of PCRs to ensure submitted reports are confirmed received in timely manner.

8.4.12 Imperial Machining

1. The EPA requested clarification on two items in the November 2023 annual certification for zero discharge to verify if facility provided response and if this response was evaluated by MWR. MWR confirmed follow-up was completed and provided the requested documents to confirm close-out of recommendations. MWR's responsiveness is greatly appreciated.

9.0 Significant Industrial User Facility Inspections

9.1 Regulatory Background

The General Pretreatment Regulations at 40 C.F.R. § 403.8(f)(1)(v) states that the POTW shall have the legal authority to:

“Carry out all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied by Industrial Users, compliance or noncompliance with applicable Pretreatment Standards and Requirements by Industrial Users. Representatives of the POTW shall be authorized to enter any premises of any Industrial User in which a Discharge source or treatment system is located or in which records are required to be kept under §403.12(o) to assure compliance with Pretreatment Standards. Such authority shall be at least as extensive as the authority provided under section 308 of the Act;”

40 C.F.R. § 403.8(f)(2)(v) of the Pretreatment Regulations requires the POTW to inspect its SIUs at least once per year. 40 C.F.R. § 403.8(f)(2)(ii) require the MWR to “Identify the character and volume of pollutants contributed to the POTW.” 40 C.F.R. § 403.8(f)(2)(vii) establishes the standard of evidence collection during sampling or

inspection activities:

“Investigate instances of noncompliance with Pretreatment Standards and Requirements, as indicated in the reports and notices required under §403.12, or indicated by analysis, inspection, and surveillance activities described in paragraph (f)(2)(v) of this section. Sample taking and analysis and the collection of other information shall be performed with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions.”

Typically, an inspector is the only representative from the POTW that regularly appears at the IU’s facility and significantly represents the POTW’s role as a responsible public agency, observing the actions and evaluating the performance of the regulated industry.

9.2 *Right of Entry*

The MWR has established the authority for right of entry in section 6.25 of the Rules and Regulations:

“Metro Water Recovery shall have the right to enter and inspect the facilities of any Industrial User to ascertain compliance with the Requirements of these *Rules and Regulations* and any permit or order issued hereunder. Persons or occupants of premises where Wastewater is created or discharged shall allow Metro or its representatives ready access at all reasonable times to all parts of the premises for the purposes of inspection, sampling, records examination and copying, or in the performance of any of their duties.

Metro Water Recovery, CDPHE, and the EPA shall have the right to set up on the Industrial User's property such devices as are necessary to conduct sampling, inspection, compliance monitoring and/or metering operations. Where an Industrial User has security measures in force which would require proper identification and clearance before entry into the Industrial User's premises, the Industrial User shall make necessary arrangements with security guards so that upon presentation of suitable identification, Staff from Metro, the CDPHE, and the EPA will be permitted to enter, without delay, for the purposes of performing their specific responsibilities. Unreasonable delays in allowing Metro access to the Industrial User's premises shall be a violation of these *Rules and Regulations*.”

The Rules and Regulations adequately establishes the right of entry authority for the MWR, as required in 40 C.F.R. § 403.8(f)(1)(v) of the Pretreatment Regulations.

9.3 *Facility Inspection Records – Background*

40 C.F.R. § 403.8(f)(2)(vii) of the Pretreatment Regulations requires the POTW to meet the criterion for evidence collection “with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions.” This is performed during facility inspections by adequate documentation in the inspection report of the observations, surveillance, inspections, sampling performed, and analysis gathered during facility inspections. A complete and well-developed inspection report that provides a current characterization of the facility will benefit the POTW’s Pretreatment program for programmatic decisions such as categorical determinations, slug discharge/spill potential, changes at the facility that may affect the current permit conditions, sampling frequencies,

etc.

As discussed in §2.11.2 of the *Industrial User Inspection and Sampling Manual for POTWs*, EPA-831B17001, January 2017, the inspection report generated from the facility inspections should accomplish the following three objectives: 1) organize and coordinate all information in a comprehensive, usable manner for use by the POTW's compliance personnel; 2) identify areas that may require follow-up activity; and 3) provide significant background information on the facility that can be reviewed prior to conducting subsequent inspections at the facility. The quality of this documentation will, to a large degree, determine how effective these follow-up activities will be at the facility. The information in the inspection report must be presented in a clear, concise, and well-organized manner.

The Industrial User Inspection and Sampling Manual for POTWs describes the information necessary to characterize a facility in §§2.10.3 and 2.12. The manual also discusses the records to review at a facility to help determine the facility's compliance in §2.10.8. It is important for Pretreatment programs to capture the following information during facility inspections to characterize the facility, and document facility changes to ensure the SIU's permit addresses current conditions:

- Chemical storage areas, including potential spill concerns during chemical receiving and transfer/handling.
- Process tanks or processing areas – detailed descriptions of the process including tank contents, capacities.
- Wastestream generation from the process areas and disposal/discharge practices – frequency of discharge rinse water tanks, whether spent chemical solutions tanks discharged to the POTW or hauled off site, proximity to floor/trench drains, slug discharge control and spill containment measures, etc.
- Wastestream management (treatment, recycling, hauling off site, evaporation, etc.).
- Waste treatment system.
- Wastestream or hazardous waste storage areas, including potential spill concerns.
- Discharge monitoring points.
 - Evaluation of the sampling/monitoring protocols to determine if these are appropriate to provide representative data of the wastewaters regulated by the permit.

A facility inspection of a permitted SIU should include a review of relevant records used to support compliance with the permit conditions and that may not be reported in the self-monitoring compliance reports such as pH and continuous flow monitoring records, tank change out logs, analytical reports, waste manifests, operation and maintenance logs, etc. A detailed facility inspection report with descriptions of tank contents, capacities, generated wastestreams, plumbing, and management of the wastestreams will benefit the POTW to establish the baseline for the year and to determine if any changes will impact the permit conditions/limits or associated documents such as the slug discharge control plan, spill plan, treatment system operation manual or sampling protocol.

During the Pretreatment audit, the EPA discussed inspection procedures with the MWR, including EPA's procedures. The EPA performs facility inspections by gathering verbal

information in an opening conference, then performing a walkthrough to visually confirm the information gathered during the opening interview. The EPA structures its information gathering by following the raw materials/chemical supply through the unit operations and ultimately to the finished product or service. A closing conference is performed to gather follow-up information, review records, and to provide preliminary conclusions to the facility.

9.4 Evaluation of the MWR's Inspection Reports/Records

The EPA evaluated the inspection reports and other records related to the facility inspection for the SIU annual facility inspection. As discussed in § 8.4.1(1) of this audit report, the SIU inspection reports include detail regarding the SIU's chemical storage/handling/transfer, process/unit operations, wastestream generation from these unit operations, wastestream management or wastewater treatment, and sampling procedures to provide a current characterization and process or treatment plant changes. However, based on the review of the Pretreatment records and the Meati Foods facility inspection conducted by the EPA on April 18, 2024, MWR needs to evaluate its information gathering during inspections to ensure it adequately evaluate slug discharge potential, including spills and non-routine batch discharges at the permitted SIUs and zero-discharge facilities, as required in the Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(vi).

9.5 Notification of Applicable Pretreatment Standards

The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(iii) require the MWR to notify IUs of applicable Pretreatment Standards and Requirements. Based on the EPA's review of the inspection records, it appears that the MWR is inconsistently providing notification to the SIUs regarding the applicable Pretreatment Standards and applicable corrective action items as a follow-up to the facility inspections. The EPA found SIU notification after the 2022 facility inspections but not after the 2023 inspections. The MWR needs to ensure it provides adequate follow up after an inspection to provide notice to the SIU or IU of applicable Pretreatment Standards.

9.6 Facility Inspections

During the audit, the EPA and MWR inspected U.S. Mint on April 17, 2024, and Meati Foods on April 18, 2024. The inspection reports were submitted to Meati Foods on April 29, 2024, and the U.S. Mint on May 15, 2024. The inspection reports are included in this audit report as an enclosure. Areas of concern during the facility inspection are provided in the facility inspection reports for the MWR to provide follow up.

10.0 Control Authority Compliance Monitoring

10.1 Regulatory Background

40 C.F.R. § 403.8(f)(1)(v) of the Pretreatment Regulations requires the POTW to have the legal authority to "Carry out all inspection, surveillance, and monitoring procedures necessary to determine, independent of information supplied by Industrial Users, compliance or noncompliance with applicable Pretreatment Standards and requirements."

Further, 40 C.F.R. § 403.8(f)(2)(v) require a POTW to “Randomly sample and analyze the effluent from Industrial Users and conduct surveillance activities in order to identify, independent of information supplied by Industrial Users, occasional and continuing noncompliance with Pretreatment Standards. Inspect and sample the effluent from each Significant Industrial User at least once a year.”

The standard to which POTWs are held for purposes of evidence collection during a Control Authority monitoring event is outlined in 40 C.F.R. § 403.8(f)(2)(vii): “Sample taking and analysis and the collection of other information shall be performed with sufficient care to produce evidence which is admissible in enforcement proceedings or judicial actions.”

In addition, a POTW is required to ensure the Control Authority monitoring events are based on representative conditions at the monitoring point, to ensure that these sampling events are legally defensible and of the same quality as required for self-monitoring events. 40 C.F.R. § 403.12(g)(3) of the Pretreatment Regulations require, “The reports ...must be based upon data obtained through appropriate sampling and analysis performed during the period covered by the report, which data are representative of conditions occurring during the reporting period.”

An enforceable sample must be representative of the nature and character of the discharges during the reporting period and is required to be representative in composition to that in the larger volume of wastewater being discharged. A POTW is required to implement a Control Authority monitoring program that meets the compliance monitoring requirements of the Pretreatment Regulations, provides representative data for compliance determinations, and that would be legally defensible in court, if such an enforcement action is taken by the POTW. In addition, representative and legally defensible data helps the POTW support other program objectives such as local limits evaluation, and permit development or reissuance.

10.2 Sampling Plan and Protocols

As required in 40 C.F.R. § 403.8(f)(2), the POTW shall “develop and implement procedures to ensure compliance with the requirements of a Pretreatment Program.” The development and implementation of a sampling plan or procedures ensures the POTW is appropriately and consistently performing sampling or monitoring events, as well as providing enforceable data that is representative of the discharge conditions at the facility. The sampling plan should include the following:

- purpose and objective of the sampling program,
- specific sampling protocols at each facility sampling location to ensure representative sampling, and
- appropriate QA/QC procedures to ensure legally defensible data.

10.2.1 Site-Specific Sampling Protocols

The sampling protocols must include specific procedures used at each facility to ensure adequate and representative sampling protocols. The development of the sampling

protocols will ensure the sampling events are performed in accordance with appropriate standards and procedures and produce quality data that is legally defensible.

At a minimum, the specific sampling protocols at each sampling location should include the following:

- Sampling locations – should include all monitoring points included in the SIU’s permit, including the use of digital photos for each monitoring point.
- Type of sample – the POTW is required to ensure the sampling event is representative of the SIU’s discharge, as required by 40 C.F.R. §403.12(g)(3). The type of sample will be dependent on the parameter to be sampled and discharge characteristics. The type of sample could include specifications for use of automatic samplers (including programming to provide representative sampling) or manual sampling techniques.
- Type of Flow Measurement – if applicable
- Parameters for Analysis – based on the SIU’s permit
- Sample Volume
- Type of Sample Containers
- Sample Preservation Techniques
- Sample Identification and Chain of Custody Procedures
- QA/QC Procedures

10.2.2 Quality Assurance/Quality Control (QA/QC)

QA and QC are tools which are necessary in a sampling program to maintain a level of quality, such as legally defensible data, in the measurement, documentation, and interpretation of sampling data. The QA/QC procedures are used to obtain data that are both precise (degree of closeness between two or more samples) and accurate (degree of closeness between the results obtained from the sample analysis and the true value that should have been obtained). Proper implementation of QA/QC procedures will result in an increase in the POTW’s confidence in the validity of the reported analytical data.

The QA/QC procedures used to ensure data collected is valid and legally defensible include, but are not limited to the following:

- equipment maintenance/calibration,
- proper sampling bottles, proper sampling techniques that are adequate and representative of the discharge from the facility,
- field blanks, equipment blanks, method blanks, standards, blind duplicates, and
- ensuring sampling personnel are adequately trained.

10.3 *The EPA Evaluation of MWR’s Control Authority Monitoring*

10.3.1 SOPs

MWR has developed SIU-specific sampling SOPs for each SIU. The SIU-specific sampling protocols include identification of the monitoring point(s) – including digital

photos, pollutants of concern, sample bottles and equipment required for the sampling event, pH/flow calibration methods/procedures and sampling procedure.

The EPA recommends MWR continually evaluate its SIU-specific sampling protocols to ensure it is current and incorporates QA/QC such as equipment blanks, trip blanks, sample duplicates, matrix spikes, control standards to ensure the sampling and analytical techniques are in control and compliance with 40 CFR 136.

10.3.2 MWR's Control Authority Monitoring

Based on the EPA's review of the Pretreatment records, the MWR samples the permitted SIUs at least once per year and meets the Control Authority monitoring frequency required in 40 C.F.R. § 403.8(f)(2)(v).

11.0 Enforcement Authority, Compliance Evaluation and the Enforcement Response Plan (ERP)

11.1 Regulatory Background

The EPA establishes the regulatory requirement to develop and implement an Enforcement Response Plan (ERP) in 40 C.F.R. § 403.8(f)(5)(i-iv) of the Pretreatment Regulations. The regulations state:

“The POTW shall develop and implement an enforcement response plan. This plan shall contain detailed procedures indicating how a POTW will investigate and respond to instances of industrial user noncompliance. The plan shall, at a minimum:

- (i) Describe how the POTW will investigate instances of noncompliance.
- (ii) Describe the types of escalating enforcement responses the POTW will take in response to all anticipated types of industrial user violations and the time periods within which responses will take place.
- (iii) Identify (by title) the official(s) responsible for each type of response.
- (iv) Adequately reflect the POTW's primary responsibility to enforce all applicable pretreatment requirements and standards.”

The development and implementation of an ERP is an important component of an effective Pretreatment Program. Although a successful Pretreatment program should provide outreach to facilities in the service area regarding the applicability of the Pretreatment Standards and compliance with these standards, in many situations, enforcement is the necessary driving force that makes the Pretreatment program functional.

The ERP establishes a framework for POTWs to formalize procedures for investigating and responding to instances of IU noncompliance and to ensure that POTWs enforce against IUs objectively, consistently, and equitably. A well-developed ERP should help the POTW decide what resources are needed to enforce the Pretreatment Standards/Requirements and assist in dealing with IU violations. In addition, the ERP will provide notice to the IUs regarding the POTW's responsibility to respond to violations of

Pretreatment Standards/Requirements.

11.2 Enforcement Legal Authority

The EPA evaluated MWR's enforcement authority and remedies found in its Rules and Regulations

1. Civil/Criminal penalties established in §6.28.8.
2. Injunctive relief provisions established in §6.28.9.
3. Immediately halt actual/threatened discharges in §6.28.6.
4. Authority to enforce against falsification/tampering established in §6.28.10.
5. Notice of violations authority established in §6.28.1.
6. Administrative orders authority established in §6.28.2.
7. Consent Orders authority established in §6.28.4.
8. Administrative penalty authority established in §6.28.8.
9. Show cause hearing provisions in §6.28.5.
10. Suspensions of service provisions in §6.28.6.
11. Permit termination provisions established in §6.28.7.
12. Publication of IUs in significant noncompliance in §6.28.12.

11.3 Enforcement Response Plan

MWR submitted its ERP to the EPA for review, prior to the audit. Based on the EPA's review, MWR's ERP meets the requirements established in the Pretreatment regulations at 40 C.F.R. § 403.8(f)(5)(i-iv) and incorporated in the municipal ordinance, with the following exceptions: (Note: the EPA's comments of MWR's ERP are summarized below and are enclosed in the audit report –Metro ERP Review.pdf. In addition, the EPA's comments are embedded in the enclosed *MWR ERP - EPA Comments.pdf*)

- MWR needs to update the ERP to include Hauled Waste Discharge and Dental Compliance required reports 45 days past the due date meet the SNC criteria.
- MWR needs to update the ERP to include Dilution as an anticipated type of violations.
- The EPA recommends MWR consider the following updates to its ERP:
 - 24-hour and upset notifications not specifically identified in ERP, recommend these be added to the list of FARN in ERG.
 - Recommend Metro provide the following references to its Rule/Regs in the ERP:
 - SNC Criteria – Rules/Regs-6.26.12 (see embedded comments in MWR's ERP)
 - SNC Publication – Rules/Regs- 6.28.12(ERP-12.6.7)

11.4 Compliance Evaluation

Based on EPA's review described in §8.4.1(4) of this audit report, MWR has developed and uses periodic compliance reports (PCR) checklists during the evaluation of the PCR for to ensure completeness of the report and compliance with the reporting deadline and permit limits/conditions. The PCR checklist appears to be a great diagnostic tool for MWR

and ensures consistency during compliance evaluation. The EPA recommends MWR ensure these PCR checklists are specific to each SIU permit conditions and limits. In addition, it appears that the MWR is consistently evaluating compliance in the self-monitoring reports or notices of violation, with few exceptions identified in the permit records review portion of the audit.

11.5 SNC Calculations and Public Participation

40 C.F.R. § 403.8(f)(2)(viii) of the Pretreatment Regulations require a POTW to comply with the public participation requirements in the enforcement of National Pretreatment Standards. These procedures shall include a provision for at least annual public notification in a newspaper of general circulation, that provides meaningful public notice within the jurisdictions served by the POTW, of IUs which, at any time during the previous 12 months, were in SNC with applicable Pretreatment requirements. The SNC determinations are both calculation of numeric Pretreatment Standards, as listed in 40 C.F.R. § 403.8(f)(2)(viii)(A-D) and determination of violations of the narrative Pretreatment Standards, as listed in 40 C.F.R. § 403.8(f)(2)(viii)(E-H). Based on EPA's review of the Pretreatment records, the MWR is calculating numeric SNC and determining narrative SNC as necessary.

12.0 Trucked and Hauled Waste

12.1 Regulatory Background

In addition to receiving wastes through the collection system, many POTWs accept trucked and hauled wastes. As stated in 40 C.F.R. § 403.1(b)(1), pollutants from nondomestic sources that are transported to the POTW by truck or rail are also subject to the Pretreatment Regulations. They may also be subject to categorical Pretreatment Standards. Therefore, hauled wastes from CIUs or hauled waste that otherwise qualifies the discharger as an IU must be regulated in accordance with the requirements of the Pretreatment Regulations, including any applicable requirements for permitting and inspecting the generating facility. Hauled wastes, like wastes received through the collection system, have the potential to negatively affect the POTW, making regulatory control of the wastes necessary.

Most wastewaters hauled or trucked to a POTW are domestic septage, typically from homes outside the POTW's service area, but compatible in nature. Because such discharges are predominantly compatible wastes, treatment at a POTW is the most appropriate disposal method. The biosolids regulations at 40 C.F.R. § 503.9(f) define domestic septage as the liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar system that holds only domestic sewage. Domestic septage does not include liquid or solid material removed from any system that receives either commercial wastewater or industrial wastewater, and it does not include grease removed from a restaurant grease trap.

The POTW cannot know for certain the nature and concentration of the trucked wastes and the impact on the POTW without implementing some type of control or surveillance program. Unlike discharges from IUs directly connected to the POTW, the makeup of a

load of hauled waste is virtually unknown without some type of monitoring, be it visual or analytical. Even compatible loads of domestic septage can cause problems for a POTW due to high strength or discharge rate. Domestic septage can be partially digested, higher in metals concentrations than normal domestic wastes, or contain small amounts of household contaminants (e.g., cleaners). Similarly, disinfectants used in portable toilets have the potential to affect POTW operations.

Receipt of hauled hazardous waste (as defined in Resource Conservation and Recovery Act (RCRA)) might not only affect POTW operations but also could subject the POTW to additional reporting requirements. The Domestic Sewage Exclusion, specified in 40 C.F.R. § 261.4(a)(1)(ii), provides that hazardous wastes mixed with domestic sewage and under control of the Pretreatment program are exempt from the RCRA waste regulations. However, hazardous wastes received by truck or rail (or dedicated pipe) at the treatment plant are not exempt from the regulations. POTWs that accept hazardous wastes from those sources are subject to *permit by rule* status under RCRA [40 C.F.R. § 270.60(c)] provided that certain requirements are met. The POTW must be in compliance with all its NPDES permit requirements and the waste must comply with all federal, state, and local pretreatment requirements.

12.2 Legal Authority

MWR has adopted the Federal specific discharge prohibitions for trucked and hauled wastes found in 40 C.F.R. § 403.5(b)(8) of the Pretreatment Regulations. This is incorporated by the MWR in the Prohibited Wastes, §6.14(9) of the Rules and Regulations:

“Any trucked or hauled pollutants except at discharge points designated by Metro Water Recovery.”

The Rules and Regulations further establish requirements for trucked/hauled waste and satellite RV dump sites in Section 5. The Hauled Waste section designates the authorized disposal sites, and establishes applications, permitting, fees, reporting requirements for the trucked and hauled waste companies permitted to discharge at the disposal site.

12.3 Trucked and Hauled Waste Disposal Location and Control Mechanisms

MWR accepts trucked or hauled waste (portable toilets, domestic-only septic tanks, commercial sources, and FOG) only at the Hite POTW. It appears that MWR has adequate control of the trucked waste disposal sites at the Hite POTW. MWR requires hauled waste permits, monthly reporting including waste manifests, and periodic sampling.

The EPA recommend MWR identify and determine adequate control of RV or other satellite disposal sites in the service area.

13.0 Best Management Practices – Sector Control Programs

13.1 Regulatory Background

BMPs are defined in 40 C.F.R. § 403.3(e) as “schedules of activities, prohibitions of

practices, maintenance procedures, and other management practices to implement the prohibitions listed in 40 C.F.R. § 403.5(a)(1) [General Prohibitions] and (b) [Specific Prohibitions]. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage.”

40 C.F.R. § 403.5(c)(4) states, “POTWs may develop Best Management Practices (BMPs) to implement paragraphs (c)(1) [develop limits to implement the general/specific prohibitions] and (c)(2) [develop and enforce specific effluent limits for industrial users that contribute pollutants that may result in Interference and Pass-Through] of this section. Such BMPs shall be considered local limits and Pretreatment Standards for the purposes of this part and section 307(d) of the Act.” The regulations establish that BMPs are enforceable Pretreatment Standards.

13.2 Authority in Rules and Regulations

The MWR established the authority to implement BMPs in its Rules and Regulations as follows:

- BMP definition in §2(11).
- Authority to implement BMPs in §6.16.
- BMPs are established as Pretreatment Standards in §2(11)-BMP definition.
- BMPs established as a permit condition in §6.22.5(3).
- BMP recordkeeping requirements in §6.25.
- BMPs established as an SNC criterion in §6.26.12

13.3 Dental Amalgam BMP Sector Control Program

The Dental Amalgam Rule, found in 40 C.F.R. Part 441, was promulgated as a final rule with new source dental facilities required to be in compliance with the Pretreatment Standards as of July 14, 2017, and existing source dental facilities required to be in compliance as of June 14, 2020. MWR has established equivalent dental amalgam requirements in section 6.16.1 of its Rules and Regulations. Compliance with the rule requires the installation of an ISO1143 amalgam separator or equivalent device, and compliance with the following two BMPs:

- Prohibition on the use of oxidizing or chlorine-containing line cleaners; and
- Ensuring all amalgam process wastewater including chair-side traps, screens, vacuum pump filters, dental tools, cuspidors or collection devices are treated through the amalgam separator.

In addition, the new and existing dental facilities are required in 40 C.F.R. § 441.50 of the Dental Amalgam Rule to provide a report that characterizes the dental facility and certifies compliance by October 12, 2020. The new source dental facilities (e.g., new dental offices starting after July 14, 2017) are required to be in compliance upon discharge and submit a one-time compliance report within 90 days of startup.

Metro has identified about 1,100 dental facilities in their industrial waste survey and has received one-time compliance reports from existing and new sources to the Dental Amalgam Rule and provides follow-up to ensure these compliance reports are complete and comply with the Rule. MWR has created multiple different templates for non-exempt, new source, and exempt facilities that adequately incorporates the BMP's and certifications required by the final Rule. When the final Rule was promulgated, they were able to inspect over 80 percent of the facilities that had submitted a compliance reports and update inconsistencies on the reports.

The EPA reviewed 100 of the one-time compliance reports and has the following observations:

- 85 of the reports had incorrect information submitted in the first line of Section 2 or Section 3. The respondents are required to report on if they place amalgam. If the respondents answer no or n/a, then the survey requires further explanation. Many reports misunderstood this section and did not provide this required additional information. The EPA recommends the 'n/a' option be removed as well as the area to explain their answer.
- Section 3 requires an attachment of an O&M plan for the amalgam separator, or a third-party vendor contact information who services and maintains their separator. Section 3 is not clear to require one or the other and is consistently filled out incorrectly. EPA recommends MWR evaluate this section for clarity to require an O&M plan, as required by MWR, to ensure that separators are being serviced and changed frequently.
- The EPA recommends MWR add a requirement to report total number of chairs, as well as chairs that remove amalgam, to gauge the size of the facility and the capacity of the amalgam separator.
- MWR requires dental offices to complete the one-time compliance report as exemption reports to provide documentation on why they are exempt from the Rule.
- Based on the EPA's conversations with MWR after its initial review of the dental amalgam reports, MWR provided additional documentation showing that most of the reports had been corrected. There were several facilities that they did not have additional documentation for and agreed to follow-up with several facilities such as regarding their incomplete compliance reports.
- For example, D'Amico & Mauck, DDS has an O&M plan that states their line cleaner is between pH 6-10 but the rule requires pH 6-8. Please provide follow-up to provide documentation that the O&M plan has been updated.

14.0 PFAS Roadmap and Implementation

Harmful per- and poly-fluoroalkyl substances (PFAS) are an urgent public health and environmental issue facing communities across the United States. PFAS have been manufactured and used in a variety of industries in the United States and around the globe since the 1940s, and they are still being used today. Because of the duration and breadth of use, PFAS can be found in surface water, groundwater, soil, and air—from remote rural areas to densely-populated urban centers. A growing body of scientific evidence shows that exposure at certain levels to specific PFAS can adversely impact human health and

other living things. Despite these concerns, PFAS are still used in a wide range of consumer products and industrial applications. Every level of government—federal, Tribal, state, and local—needs to exercise increased and sustained leadership to accelerate progress to clean up PFAS contamination, prevent new contamination, and make game-changing breakthroughs in the scientific understanding of PFAS.

14.1 2021 EPA PFAS Strategic Roadmap

On October 18, 2021, the EPA developed the **Agency’s PFAS Strategic Roadmap** — laying out a whole-of-agency approach to addressing PFAS. The roadmap sets timelines by which EPA plans to take specific actions and commits to policies designed to safeguard public health, protect the environment, and hold polluters accountable. The PFAS Strategic Roadmap may be found at the following link: <https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024>

The EPA’s integrated approach to PFAS is focused on three central directives:

1. **Research.** Invest in research, development, and innovation to increase understanding of PFAS exposures and toxicities, human health and ecological effects, and effective interventions that incorporate the best available science.
2. **Restrict.** Pursue a comprehensive approach to proactively prevent PFAS from entering air, land, and water at levels that can adversely impact human health and the environment.
3. **Remediate.** Broaden and accelerate the cleanup of PFAS contamination to protect human health and ecological systems.

The EPA’s approach is shaped by the unique challenges to addressing PFAS contamination. The EPA cannot solve the problem of “forever chemicals” by tackling one route of exposure or one use at a time. Rather, the EPA understood that it needed to take a lifecycle approach to PFAS to make meaningful progress. PFAS pollution is not a legacy issue—these chemicals remain in use in U.S. commerce.

The risks posed by PFAS demand that the Agency attack the problem on multiple fronts at the same time. In the 2021 PFAS Roadmap, the EPA is leveraging the full range of statutory authorities to confront the human health and ecological risks of PFAS:

- Water – Clean Act (CWA)
- Solid Waste – Resource Conservation and Recovery Act (RCRA)
- Land – Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Air – Clean Air Act (CAA)
- Chemical Safety and Pollution Prevention – Toxic Substances Control Act (TSCA)

For purposes of this audit, the EPA is addressing the initiatives used in the Office of Water under the Safe Drinking Water Act, the Clean Water Act, the NPDES Permitting program and associated programs under the NPDES regulatory umbrella. The specific PFAS

Roadmap commitments and updates may be found at the following link: <https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024#ow>

14.1.1 Office of Water

14.1.1.1 Undertake nationwide monitoring for PFAS in drinking water

The Safe Drinking Water Act (SDWA) establishes a data-driven and risk-based process to assess drinking water contaminants of emerging concern. Under SDWA, EPA requires water systems to conduct sampling for unregulated contaminants every five years. The fifth Unregulated Contaminant Monitoring Rule (UCMR 5) was published on December 27, 2021. UCMR 5 requires sample collection for 30 chemical contaminants between 2023 and 2025 from drinking water systems using analytical methods developed by EPA and consensus organizations. This action provides EPA and other interested parties with scientifically valid data on the national occurrence of these contaminants in drinking water. Going forward, EPA will continue to prioritize additional PFAS for inclusion in UCMR 6 and beyond, as techniques to measure these additional substances in drinking water are developed and validated.

14.1.1.2 Establish a national primary drinking water regulation for PFOA and PFOS

Under the SDWA, EPA has the authority to set enforceable National Primary Drinking Water Regulations (NPDWRs) for drinking water contaminants and require monitoring of public water supplies. To date, EPA has regulated more than 90 drinking water contaminants but has not established national drinking water regulations for any PFAS. In March 2021, EPA published the Fourth Regulatory Determinations, including a final determination to regulate Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonic acid (PFOS) in drinking water.

On March 14, 2023, EPA announced the proposed National Primary Drinking Water Regulation (NPDWR) for six PFAS including perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorononanoic acid (PFNA), hexafluoropropylene oxide dimer acid (HFPO-DA, commonly known as GenX Chemicals), perfluorohexane sulfonic acid (PFHxS), and perfluorobutane sulfonic acid (PFBS). The proposed PFAS NPDWR does not require any actions until it is finalized. EPA anticipates finalizing the regulation by the end of 2023. EPA expects that if fully implemented, the rule will prevent thousands of deaths and reduce tens of thousands of serious PFAS-attributable illnesses.

14.1.1.3 Publish the final toxMWR assessment for GenX and five additional PFAS

On June 15, 2022, EPA issued final health advisories (HAs) for these two per- and polyfluoroalkyl substances (PFAS): 1) hexafluoropropylene oxide (HFPO) dimer acid and its ammonium salt (referred to as “GenX chemicals”); and 2) perfluorobutane sulfonic acid and its potassium salt (PFBS). In chemical and product manufacturing, GenX chemicals are considered a replacement for perfluorooctanoic acid (PFOA), and PFBS is considered a replacement for perfluorooctane sulfonic acid (PFOS). GenX chemicals have been found

in surface water, groundwater, drinking water, rainwater, and air emissions. GenX chemicals are known to impact human health and ecosystems. Scientists have observed liver and kidney toxicity, immune effects, hematological effects, reproductive and developmental effects, and cancer in animals exposed to GenX chemicals.

The Office of Research and Development is also currently developing toxMWR assessments for five other PFAS—PFBA, PFHxA, PFHxS, PFNA, and PFDA.

14.1.1.4 Publish health advisories for GenX and PFBS

PFAS contamination has impacted drinking water quality across the country, including in underserved rural areas and communities of color. SDWA authorizes EPA to develop non-enforceable and non-regulatory drinking water health advisories to help Tribes, states, and local governments inform the public and determine whether local actions are needed to address public health impacts in these communities. Health advisories offer a margin of protection by defining a level of drinking water concentration at or below which lifetime exposure is not anticipated to lead to adverse health effects. They include information on health effects, analytical methodologies, and treatment technologies and are designed to protect all lifestages.

On June 15, 2022, EPA issued interim updated drinking water health advisories for PFOA and PFOS that replace those EPA issued in 2016. In addition, EPA published health advisories for GenX and PFBS chemicals. These updated health advisories levels, which are based on new science, will remain in place until EPA establishes a National Primary Drinking Water Regulation. (As identified above the proposed National Primary Drinking Water Regulations were proposed on March 14, 2023.

14.1.1.5 Restrict PFAS discharges from industrial sources through a multi-faceted Effluent Limitations Guidelines program

Effluent Limitations Guidelines (ELGs) are a powerful tool to limit pollutants from entering the nation's waters. ELGs establish national technology-based regulatory limits on the level of specified pollutants in wastewater discharged into surface waters and into municipal sewage treatment facilities. EPA has been conducting a PFAS multi-industry study to inform the extent and nature of PFAS discharges. Based on this study, EPA is taking a proactive approach to restrict PFAS discharges from multiple industrial categories. EPA plans to make significant progress in its ELG regulatory work by the end of 2024. EPA has established timelines for action—whether it is data collection or rulemaking—on the nine industrial categories in the proposed PFAS Action Act of 2021, as well as other industrial categories such as landfills. EPA's multi-faceted approach entails:

- Undertake rulemaking to restrict PFAS discharges from industrial categories where EPA has the data to do so, including the guidelines for organic chemicals, plastics and synthetic fibers (OCPSF), metal finishing, and electroplating. Proposed rule is expected in the Fall 2024 for OCPSF and Summer 2025 for metal finishing and electroplating.
- Launch detailed studies on facilities where EPA has preliminary data on PFAS discharges, but the data are currently insufficient to support a potential rulemaking.

These include electrical and electronic components, textile mills, and landfills. EPA expects these studies to be complete by Fall 2022 to inform decision making about a future rulemaking by the end of 2023.

- Initiate data reviews for industrial categories for which there is little known information on PFAS discharges, including leather tanning and finishing, plastics molding and forming, and paint formulating. The EPA expects to complete these data reviews by Winter 2024 to inform whether there are sufficient data to initiate a potential rulemaking.
- Monitor industrial categories where the phaseout of PFAS is projected by 2024, including pulp, paper, paperboard, and airports.
- The EPA is conducting a POTW Influent PFAS Study to collect and analyze nationwide data on industrial discharges of PFAS to POTWs, as well as PFAS in POTW influent, effluent, and sewage sludge. The EPA will require, through an Information Collection Request (ICR), a subset of large POTWs across the United States to complete a questionnaire and collect and analyze wastewater and sewage sludge samples.

14.1.1.6 Leverage NPDES permitting to reduce PFAS discharges to waterways

The National Pollutant Discharge Elimination System (NPDES) program interfaces with many pathways by which PFAS travel and are released into the environment and ultimately impact people and water quality.

On December 5, 2022, the EPA issued the **Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs Memo** to the U.S. States to proactively use existing NPDES authorities to reduce discharges of PFAS at the source and obtain more comprehensive information through monitoring on the sources of PFAS and quantity of PFAS discharged by these sources. This memorandum provides EPA's guidance to states and updates the April 28, 2022 guidance to EPA Regions for addressing PFAS discharges when they are authorized to administer the NPDES permitting program or Pretreatment program. The memo provides the following recommendations for POTW NPDES permits and Pretreatment programs:

- POTW NPDES Permits:
 - Quarterly Effluent, Influent and biosolids monitoring using EPA Method 1633
 - Recommended biosolids assessment, based on biosolids monitoring and a PFAS source reduction for IUs in the POTW's service area, if necessary
 - Public notice of downstream drinking systems that are potentially affected by the POTW effluent when the POTW's NPDES permit is renewed or issued.
- Pretreatment Programs:
 - Source Identification: Update IU inventory to include PFAS sources
 - Source Control: Utilize BMPS and pollution prevention to address PFAS discharges to the POTW

- Update IU permits to required quarterly PFAS monitoring
- Develop IU BMPS or local limits for PFAS, where authority exists through the NPDES permit limits or PFAS ELG promulgation.

14.1.1.7 Publish multi-laboratory validated analytical method for 40 PFAS

In September 2021, EPA (in collaboration with the Department of Defense) published a single-laboratory validated method to detect PFAS. The method can measure up to 40 specific PFAS compounds in eight environmental matrices (including wastewater, surface water and biosolids) and has numerous applications, including NPDES compliance monitoring. EPA and DOD are continuing this collaboration to complete a multi-laboratory validation of the method. In response to stakeholder requests to update the method with multi-laboratory validation data as soon as practical, the EPA is releasing multiple revisions of the draft method. These revisions (past, present, and future) are outlined below. It should be noted that none of these revisions significantly changed (or are anticipated to change) the procedure.

- August 2021: EPA posted the initial draft of Method 1633 at this website using the data from the single laboratory validation.
- June 2022: Second draft of Method 1633 included clarification on several issues that the laboratories participating in the multi-laboratory validation thought were vague or confusing.
- December 2022: Third draft of Method 1633 included some multi-laboratory validation data for the wastewater matrix, which added required QC criteria for the wastewater matrix. This revision had some additional clarifications and flexibilities that were responsive to formal comments received from multiple parties.
- July 2023: Fourth draft of Method 1633 incorporates the QC acceptance criteria for all aqueous matrices (surface water, ground water, and wastewater), derived from the multi-lab validation study. A multi-laboratory validation study report (published by DoD) is available below that summarizes the results of the multi-laboratory study for these aqueous matrices.
- The Final version of EPA Method 1633 was published on January 31, 2024, and is a validated analytical method to test for 40 PFAS in wastewater, surface water, groundwater, soil, biosolids, sediment, leachate and fish tissue. The method, while final, will not be required until the EPA formally adopts it through rulemaking.

In addition, on April 8, 2022, the EPA published a new *Adsorbable Organic Fluorine (AOF)* method 1621 that can broadly screen for the presence of PFAS in water at the part per billion level. The new AOF Method 1621 provides an aggregate measurement of chemical substances that contain carbon-fluorine bonds. PFAS are a common source of organofluorines in wastewater. This new method is especially useful for understanding the presence and forms of PFAS in wastewater when used in conjunction with methods that target individual PFAS. EPA's Draft Method 1621 has successfully completed single laboratory validation.

14.1.1.8 Publish updates to PFAS analytical methods to monitor drinking water

Expected Fall 2024 SDWA requires EPA to use scientifically robust and validated analytical methods to assess the occurrence of contaminants of emerging concern, such as an unidentified or newly detected PFAS chemical. EPA will update and validate analytical methods to monitor additional PFAS. First, EPA will review reports of PFAS of concern and seek to procure certified reference standards that are essential for accurate and selective quantitation of emerging PFAS of concern in drinking water samples. EPA will evaluate analytical methods previously published for monitoring PFAS in drinking water (EPA Methods 533 and 537.1) to determine the efficacy of expanding the established target PFAS analyte list to include any emerging PFAS. Upon conclusion of this evaluation, EPA will complete multi-laboratory validation studies and peer review and publish updated EPA PFAS analytical methods for drinking water, making them available to support future drinking water monitoring programs.

14.1.1.9 Publish final recommended ambient water quality criteria for PFAS

Tribes and states use EPA recommended water quality criteria to develop water quality standards to protect and restore waters, issue permits to control PFAS discharges, and assess the cumulative impact of PFAS pollution on local communities. On April 28, 2022, the EPA published proposed national recommended ambient water quality criteria for PFAS to protect aquatic life.

EPA is proposing the first Clean Water Act aquatic life criteria for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS)—two of the most well-studied chemicals in this group. The criteria are intended to protect aquatic life in the United States from short-term and long-term toxic effects of PFOA and PFOS. Following the comment period, EPA intends to issue final PFOA and PFOS recommended criteria, considering public comments and any new toxiMWR data. States and Tribes may consider adopting the final criteria into their water quality standards or can adopt other scientifically defensible criteria that are based on local or site-specific conditions.

14.1.1.10 Monitor fish tissue for PFAS from the nation's lakes and evaluate human biomarkers for PFAS

States and Tribes have highlighted fish tissue data in lakes as a critical information need. Food and water consumption are important pathways of PFAS exposure, and PFAS can accumulate in fish tissue. In fact, EPA monitoring to date shows the presence of PFAS, at varying levels, in approximately 100 percent of fish tested in the Great Lakes and large rivers. In Summer 2022, EPA will collect fish tissue in the National Lakes Assessment for the first national study of PFAS in fish tissue in U.S. lakes. This will provide a better understanding of where PFAS fish tissue contamination is occurring, which PFAS are involved, and the severity of the problem. The new data will complement EPA's analyses of PFAS in fish tissue and allow EPA to better understand unique impacts on subsistence fishers, who may eat fish from contaminated waterbodies in higher quantities. EPA's preliminary analysis on whether concentrations of certain PFAS compounds in human blood could be associated with eating fish using the Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES) data found a positive correlation. Completing this analysis will help make clear the importance of the

fish consumption pathway for protecting communities. EPA will continue to pursue collaboration with Tribal and federal partners to investigate this issue of mutual interest.

14.1.1.11 Finalize list of PFAS for use in fish advisory programs

EPA will publish a list of PFAS for state and Tribal fish advisory programs that are either known or thought to be in samples of edible freshwater fish in high occurrence nationwide. This list will serve as guidance to state and Tribal fish tissue monitoring and advisory programs so that they know which PFAS to monitor and how to set fish advisories for PFAS that have human health impacts via fish consumption. This information will encourage more robust data collection from fish advisory programs and promote consistency of fish tissue PFAS monitoring results in EPA's publicly accessible Water Quality Portal. By issuing advisories for PFAS, state and Tribal programs can provide high-risk populations, including communities and individuals who depend on subsistence fishing, with more information about how to protect their health.

14.1.1.12 Finalize risk assessment for PFOA and PFOS in biosolids

Biosolids, or sewage sludge, from wastewater treatment facilities can sometimes contain PFAS. When spread on agricultural fields, the PFAS can contaminate crops and livestock. The CWA authorizes EPA to set pollutant limits and monitoring and reporting requirements for contaminants in biosolids if sufficient scientific evidence shows that there is potential harm to human health or the environment. A risk assessment is key to determining the potential harm associated with human exposure to chemicals. EPA will complete the risk assessment for PFOA and PFOS in biosolids by the end of 2024. The risk assessment will serve as the basis for determining whether regulation of PFOA and PFOS in biosolids is appropriate. If EPA determines that a regulation is appropriate, biosolids standards would improve the protection of public health and wildlife health from health effects resulting from exposure to biosolids containing PFOA and PFOS.

14.2 Impact of the NPDES Initiatives on the MWR's Pretreatment Program

The analytical tools, rules, procedures, and methods developed by the EPA in the PFAS Strategic Roadmap and identified in §§14.1.1.1 through 14.1.1.12 are currently recommendations to identify and control non-domestic or IU sources in a POTW's service area. The requirement to control IUs will occur either when the EPA promulgates categorical Pretreatment Standards for specific IU sectors such as OCPSF, Metal Finishers or other future rulemakings, as identified in §14.1.1.5 or when the NPDES State adopts the EPA National Water Quality Criteria for PFAS and PFOS, identified in §14.1.1.9 as State water quality standards and begin implementing these as NPDES permit limits. However, EPA recommends the MWR evaluate these recommendations and determine proactive measures to identify PFAS non-domestic sources in its service area and determine appropriate level of control or compliance assistance.

14.3 CDPHE's PFAS Policy 20-1

The Colorado Water Quality Control Commission approved PFAS Policy 20-1 on July 14, 2020, to implement and interpret the narrative standard provisions in the commission's

Regulations No. 31.11(1)(a)(iv) and No. 41.5(A)(1) for PFAS. Section 31.11(1)(a)(iv) of the commission's regulations states, in relevant part, that "state surface waters shall be free from substances attributable to human-caused point source or nonpoint source discharge in amounts, concentrations or combinations which are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life." Section 41.5(A)(1) states that "Groundwater shall be free from pollutants not listed in the tables referred to in section 41.5(B), which alone or in combination with other substances, are in concentrations shown to be...Carcinogenic, mutagenic, teratogenic, or toxic to human beings, and/or,...A danger to the public health, safety, or welfare."

PFAS Policy 20-1 directs the CDPHE to consider applying policy requirements for all existing and future, domestic and non-domestic, surface water and groundwater discharge permits issued by the division. The policy's approach for interpreting the PFAS narrative standards includes laboratory method and sampling considerations, translating the narrative standards for PFAS, cleanup of contaminated groundwater considerations, implementation in Colorado Discharge System Permits, and Colorado's impaired water list considerations. The CDPHE began implementation of PFAS Policy 20-1 in 2021 with permit modifications to require monitoring for PFAS and to require preliminary PFAS source identification and is including these policy requirements in renewed/reissued permits.