



**COLORADO DISCHARGE PERMIT SYSTEM (CDPS)
FACT SHEET TO MODIFICATION 2
PERMIT NUMBER CO0026611
CITY OF AURORA SAND CREEK WATER REUSE FACILITY**

ADAMS COUNTY

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I. TYPE OF PERMIT

- A. Permit Type:** Modification 2 – Minor Amendment
B. Discharge To: Surface Water

II. FACILITY INFORMATION

- A. SIC Code:** 4952 Sewerage Systems
- B. Facility Classification:** Class A per Section 100.6.2 of the Water and Wastewater Facility Operator Certification Requirements
- C. Facility Location:** Latitude: 39.760806° N, Longitude: 104.854202°W
- D. Permitted Features:** 001A, following disinfection and prior to mixing with the receiving stream. 39.760540° N, 104.857591° W
001P, following disinfection and prior to mixing with the receiving stream, 39.760540° N, 104.857591° W

III. PURPOSE OF MODIFICATION

The division received a modification request dated July 25, 2014 from the City of Aurora. The City of Aurora requested changes to the following permit requirements:

1. Site approval 4439 was amended May 21, 2014 to increase the organic loading capacity from 11500 lbs. BOD₅ per day to 14500 lbs. BOD₅ per day.
2. The permittee requested the ammonia compliance schedule to attain the January 1, 2017 ammonia limits be removed. The permittee submitted documentation stating that the requirement to hire a professional engineer and submit a scope of work plan had been completed prior to the deadlines required in the compliance schedule. According to the evaluation completed by the consulting firm Hatch Mott MacDonald determined that the Sand Creek Water Reuse Facility can meet the January 1, 2017 limits with their existing treatment process.
3. The permittee requested the removal of the selenium limit from the permit and removal of the corresponding compliance schedule to attain selenium limits. The permittee requested these changes due to recent changes in the segmentation of Sand Creek and the corresponding standards associated with the new segments of Sand Creek.

IV. CHANGES TO PERMIT

1. Part I.B.2 was changed to reflect the increase in organic loading capacity from 11500 lbs. BOD₅ per day to 14500 lbs. BOD₅ per day per the Site approval #4439 amendment, dated May 21, 2014. The amendment states that the organic capacity rerating for which there is no associated construction has been approved.

2. Part I.B.5.b was changed to remove the compliance schedule for the January 1, 2017 ammonia limits, and Part I.A.2. was also updated to reflect that the ammonia limitations are now effective. The permittee submitted documentation stating that the requirement to hire a professional engineer and submit a scope of work plan had been completed prior to the deadlines required in the compliance schedule. The permittee also submitted a technical memorandum from the consulting firm Hatch Mott MacDonald. According to the technical memorandum the Sand Creek Water Reuse Facility can meet the January 1, 2017 ammonia limits with their existing treatment process. After reviewing the technical memorandum submitted by the City of Aurora and the DMR data from the Sand Creek Water Reuse Facility, the division has removed the compliance schedule for the upcoming January 1, 2017 ammonia limits from the permit, and these limits that were scheduled for January 1, 2017 are now effective immediately.

3. Part 1.A.2. Permitted Feature 001A (table) was changed to incorporate the selenium limits based on the site-specific standard change that occurred in April 2013, effective September 30, 2013. According to Regulation 38, part 38.86 *Statement of Basis Specific Statutory Authority and Purpose: April 8, 2013 Rulemaking for Sand Creek, Upper South Platte Segment 16a; Final Action May 13, 2013; Effective September 30, 2013*, Sand Creek was divided and a new segment, COSPUS16i, was created which is defined as: “Mainstem of Sand Creek from the confluence with Toll Gate Creek to the confluence with the South Platte River”. This new segment has site-specific ambient-based selenium standards of 38.2 ug/l for chronic and 45.1 ug/l for acute conditions. The Sand Creek Water Reuse Facility formerly discharged into segment COSPUS16a, however after the changes to Regulation 38, the Sand Creek Water Reuse Facility now discharges into the new segment COSPUS16i. The Division conducted a reasonable potential analysis to evaluate the Sand Creek Water Reuse Facility DMR data with the new stream segment standards for segment COSPUS16i.

Reasonable Potential Analysis – Using the assimilative capacities contained in the WQA, an analysis must be performed to determine whether to include the calculated assimilative capacities as QBELs in the permit. This reasonable Potential (RP) analysis is based on the Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential, dated December, 2002. This guidance document utilizes both quantitative and qualitative approaches to establish RP depending on the amount of available data.

A qualitative determination of RP may be made where ancillary and/or additional treatment technologies are employed to reduce the concentrations of certain pollutants. Because it may be anticipated that the limits for a parameter could not be met without treatment, and the treatment is not coincidental to the movement of water through the facility, limits may be included to assure that treatment is maintained.

To conduct a quantitative RP analysis, a minimum of 10 effluent data points from the previous 5 years, should be used. The equations set out in the guidance for normal and lognormal distribution, where applicable, are used to calculate the maximum estimated pollutant concentration (MEPC). For data sets with non-detect values, and where at least 30% of the data set was greater than the detection level, MDLWIN software is used consistent with Division guidance to generate the mean and standard deviation, which are then used to establish the multipliers used to calculate the MEPC.

If the MDLWIN program cannot be used the Division’s guidance prescribes the use of best professional judgment. The guidance specifies that if the MEPC exceeds the maximum allowable pollutant concentration (MAPC), limits must be established and where the MEPC is greater than half the MAPC (but less than the MAPC), monitoring must be established. Table I contains the calculated MEPC compared to the corresponding MAPC, and the results of the reasonable potential evaluation, for those parameters that met the data requirements. The RP determination is discussed for each parameter in the text below.

Table I – Quantitative Reasonable Potential Analysis

Parameter	30-Day Average			7-Day Ave or Daily Max			Antideg (2 Year Roll. Ave)		
	MEPC	QBEL (MAPC)	Reasonable Potential	MEPC	QBEL (MAPC)	Reasonable Potential	MEPC	ADBAC (MAPC)	Reasonable Potential
Se, Dis (µg/l)	4.5	38	No	7.3	45	No	2.4	5.7	No

Potentially Dissolved Selenium - There is no quantitative reasonable potential for potentially dissolved selenium to exceed the current standards on the segment of Sand Creek COSPUS16i, and thus no limitations for potentially dissolved selenium are included at the Sand Creek Water Reuse Facility at this time. However, since this is a major domestic facility, with the potential for selenium to be in the influent (and effluent) wastewater, monitoring at a reduced frequency will remain in the permit. Part I.B.5.c was changed to remove the compliance schedule for the selenium limits as the facility can attain the new QBELs, and because no permit limit is applicable at this time.

Monitoring

Effluent Monitoring – Effluent monitoring will be required as shown in the permit document. Refer to the permit for locations of monitoring points. Monitoring requirements have been established in accordance with the frequencies and sample types set forth in the Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Industrial and Domestic Wastewater Treatment Facilities. This policy includes the methods for reduced monitoring frequencies based upon facility compliance. Table II shows the results of the reduced monitoring frequency analysis for Permitted Feature 001A, Limit Set Sand Creek Water Reuse Facility for potentially dissolved selenium.

The Use of the Pretreatment Framework to identify, characterize, and control sources of Pollutants to POTWs

Note that in other permitting actions, EPA commented and recommended that permits for all POTWs require periodic pretreatment pollutant scans of effluent. Therefore, the Division will include pretreatment sampling in major POTW permits without approved programs. These pollutants are identified in the pretreatment regulations found in 40 CFR 403, and in 40 CFR 122 Appendix D, Table III.

Permit provisions differ for POTWs required to maintain a pretreatment program and for POTWs not required to maintain a pretreatment program. POTWs that are required to maintain a pretreatment program are required to identify and locate all possible industrial users (“IUs”), identify the character and volume of pollutants, maintain current information regarding IUs and conduct periodic pollutant scans of both influent and effluent for a list of parameters referenced in 40 CFR 403.

POTWs not required to maintain a pretreatment program are not held to this level of requirement, and as such are less likely to identify and locate all possible industrial users (“IUs”), identify the character and volume of pollutants, maintain current information regarding IUs and conduct periodic pollutant scans of both influent and effluent. In this case, the Division has decided to require periodic pollutant scans of effluent even though The Sand Creek Water Reuse Facility, maintained by the city of Aurora, is not required to maintain a pretreatment program.

EPA provided the following permit language for POTWs without approved programs, which the Division has included in this permitting action:

The Permittee shall sample and analyze the effluent for the following pollutants:

Total Arsenic	Total Nickel
Total Cadmium	Total Selenium
Total Chromium	Total Silver
Total Copper	Total Zinc
Total Lead	Total Cyanide
Total Mercury	Total Phenols
Total Molybdenum	

The sampling shall commence within thirty (30) days of the effective date of this permit and continue at the following frequency:

Majors (above 1 MGD) 1 per year

Jennifer Charles
September 10, 2014

V. PUBLIC NOTICE COMMENTS

The public notice period was from September 12, 2014 to October 14, 2014. Comments were received from the City of Aurora. Topical summaries of the comments and the Division’s response are provided below.

Comment 1: Aurora Water submitted a comment stating that they feel that an opportunity to view permit documents prior to the public notice period would allow for the resolution of issues prior to the public comment period, and eliminate the need for some of the changes to permit documents after the public notice period.

Division Response: The Division acknowledges the City of Aurora’s comment; however the Division is unable to provide draft copies of permit documents prior to the public notice period due to time constraints and the large number of permits that are generated for public notice each month. The Division expedites the modification requests as a service to permittees and providing draft copies prior to public notice would further slow the permitting process. Furthermore, the purpose of the public notice period is to provide an open and transparent format for the permitting process including the public, other stakeholders, and the permittee.

Comment 2: Several amendments were made to the Permit and Fact Sheet outside of the modification request from the permittee. These changes should not have been included in this modification as they were not in the modification request from the permittee.

The Sand Creek Water Reuse Facility has an agreement with and has delegated all responsibilities for compliance with industrial wastewater pretreatment regulations to Metro Wastewater Reclamation District. Therefore, Permitted Feature/Limit Set 001P should not be added to the permit. Additionally, this change to the permit was made outside the scope of the modification request submitted by the City of Aurora.

Division Response: One additional requirement was added to the permit regarding an inclusion of permitted feature “001P” to gather effluent data for pretreatment pollutant scans for facilities not covered under an EPA approved program.

During the public notice period the City of Aurora informed the Division that the City of Aurora has an Intergovernmental Agreement with the Metro Wastewater Reclamation District to administer their pretreatment program, which is EPA approved. The Division appreciates the permittee clarifying this information with regard to the pretreatment status. Therefore Permitted Feature/Limit Set 001P and the associated monitoring tables and language have been removed from the permit and fact sheet in light of this information. An evaluation of the facility’s pretreatment program will be conducted during permit renewal.

Comment 3: Permit, page 4 of 33, Permitted Feature 001A, Effluent Parameter for Total Ammonia as N. ICIS Code 00610 for Total Ammonia is missing a January report date and associated 30-day average and daily maximum limitations.

Division Response: The Total Ammonia 30 day average and daily maximum limitations for January have been added to the permit in Part I.A.2.Permitted Feature 001A Table on page 4.

Comment 4: Permit, page 4 of 33, Permitted Feature 001A, Effluent Parameter for Selenium (Se) ICIS Code 01323 has identified a report only effluent limitation at a frequency of semi-annually. The Division received comments from the permittee referencing portions of Water Quality Control Division Implementation Policy Number: Clean Water 1 regarding quantitative potential. The permittee further stated “As depicted in Table 1 on page 2 of the Fact Sheet, it was determined that there is no quantitative reasonable potential to exceed the selenium standard for Sand Creek segment COSPUS16i. As a result of this lack of reasonable potential, Aurora Water feels the selenium monitoring/reporting requirement should be removed from the permit altogether.”

In addition, the City of Aurora is still unsure why selenium must remain in the permit since prior data has demonstrated a lack of reasonable potential to exceed the stream standard. However, should the Division elect to keep the selenium monitoring requirement in the permit, Aurora would prefer to maintain the sampling requirement at semi-annual, but would request the Division to evaluate whether the reporting requirement should be listed under the ‘30-Day Average’ and ‘Daily Maximum’ columns or simply under the ‘2-Year Average’ column of the table for Permitted Feature 001A.

Division Response: The Division agrees that there is no quantitative reasonable potential for potentially dissolved selenium to exceed the current standards on the segment of Sand Creek COSPUS16i, and thus no limitations for potentially dissolved selenium are included at the Sand Creek Water Reuse Facility at this time. However, dissolved selenium remains a pollutant of concern and semiannual monitoring was included in the permit as the Sand Creek Water Reuse Facility. This facility is a domestic major facility and there is potential for the presence of selenium in the influent and the discharge from the facility. This language has been clarified in the fact sheet, and the semiannual monitoring requirement for selenium will remain in the permit to ensure that effluent data is available for future RP evaluations.

The 30 day average and daily maximum semi-annual report requirements for dissolved selenium will remain in the permit for a future determination of RP in later permit renewals. These reporting types, not the 2 year rolling average remains appropriate for evaluation of RP for the WQBELs. If needed, a 2 year rolling average can be calculated from this effluent data.

Comment 6: Permit, page 11 of 33, Industrial Waste Management section g. As stated in the previous comment section g should be removed from the permit on the basis that Metro Wastewater Reclamation District has responsibility for pretreatment related activities and this change was made outside the scope of the modification request.

Division Response: As referenced in the Division Response to Comment 2, Section g of the Industrial Waste Management section in the permit has been removed.

Comment 7: Rationale, page 3 The Use of the Pretreatment Framework to identify, characterize, and control sources of Pollutants to POTWs. As stated in the previous comment this section of the rationale should be removed from the permit on the basis that Metro Wastewater Reclamation District has responsibility for pretreatment related activities and this change was made outside the scope of the modification request.

Division Response: As referenced in the Division Response to Comment 2, during the public notice period the City of Aurora informed the Division of the fact that, the City of Aurora has an Intergovernmental Agreement with the Metro Wastewater Reclamation District to administer their pretreatment program, which is EPA approved. The Division appreciates the permittee clarifying this information with regard to the pretreatment status. However, the section, *The Use of the Pretreatment Framework to identify, characterize, and control sources of Pollutants to POTW*, will remain in the fact sheet at this time. This is general language provided by the EPA, and the Division may require additional reporting with regard to the City of Aurora's EPA approved pretreatment program administered by Metro Wastewater Reclamation District in the future.

Comment 8: Rationale, page 3, Table II – Monitoring Reduction Evaluation. As there is no quantitative reasonable potential to exceed the selenium standard for Sand Creek segment COSPUS16i, Table II Monitoring Reductions Evaluation should be removed from the fact sheet.

Division Response: As provided in Division Response to Comment 4, the selenium monitoring requirement is included in the permit as the Sand Creek Water Reuse Facility is a domestic major facility and there is potential for the presence of selenium in the influent and the effluent of this facility. The reduced monitoring frequency section has been removed from the fact sheet as requested by the permittee.

Jennifer Charles
November 26, 2014