ATTACHMENT A

Rules Concerning Treatment and Disposal of Dental Amalgam Wastewater Within the City of Boulder

Part #1 Purpose and Applicability

It is the intent of these rules to protect the city’s wastewater treatment system and Boulder Creek from the introduction of excessive amounts of mercury; to protect human health, aquatic life and wildlife; to comply with state regulations for clean waterways; and to meet the City of Boulder (city) Publicly Owned Treatment Works (POTW) Colorado Discharge Permit System (CDPS) permit requirements for the quantity of mercury discharged to Boulder Creek.

Since April 2007, the city has regulated amalgam wastewater from dental offices per City Manager Rule 11-1-3.B(07) based on concerns for compliance with the effluent mercury limits in its CDPS permit. Rule 11-1-3.B(07) anticipated further Environmental Protection Agency (EPA) policy guidance and pretreatment program controls for mercury. On June 14, 2017, the EPA promulgated federal regulations at 40 CFR Part 441, Dental Office Point Source Category to reduce discharges of mercury from dental offices into POTWs. These rules update and amend city regulations based on the recent EPA rule.

Once in the environment, mercury can be converted to its most toxic form, methylmercury. Methylmercury is persistent and bioaccumulates within the environment. It is a neurotoxin, and exposure can cause damage to the development and functioning of the nervous system as well as various environmental concerns.

Among sources of mercury in the wastewater, dental amalgam is an avoidable pollutant. Dental practices, through the proper technology, have the means to substantially minimize the amount of mercury discharged. Through the installation of an approved separator and the use of best management practices, dental dischargers can capture up to 99.9 percent of their amalgam waste.

To effectively address this issue and in accordance with the requirements in the EPA rule, the city has developed these amended Rules Concerning Treatment and Disposal of Amalgam Wastewater in support of Title 11, Chapter 3, B.R.C. 1981.

(a) Purpose. These rules establish requirements for controlling the discharge and recycling of amalgam wastewater from dental dischargers. The purpose of the amalgam wastewater rules are to reduce mercury in wastewater by preventing its release from the source through proper handling, disposal and use of filters and separators at dental dischargers. The objectives of these rules are:

1. to reduce the amount of mercury discharged into the city’s POTW.
2. to meet city POTW permit requirements and remain in compliance with the state’s regulations for clean waterways.
3. to protect human health and aquatic life.
4. to establish administrative review procedures and reporting requirements.
5. to establish enforcement procedures for violations of any part or requirement of these rules.

Part #2 Authority

These rules are issued pursuant to Sections 11-1-3 and 11-3-25, B.R.C. 1981.

Part #3 Applicability

(a) Except as specifically provided in paragraphs (b), (c), and (d) of this Part #3, these rules apply to all dental dischargers located within the municipal boundaries of the city or within the city’s POTW service area that discharge wastewater from the placement or removal of amalgam containing mercury.
(b) These rules do not apply to dental dischargers that exclusively practice one or more of the following dental specialties: oral pathology, oral and maxillofacial radiology, oral and maxillofacial surgery, orthodontics, periodontics, or prosthodontics.

(c) These rules do not apply to wastewater discharges from a mobile unit operated by a dental discharger.

(d) These rules do not apply to dental dischargers that do not discharge any amalgam process wastewater to the city’s POTW.

(e) These rules do not apply to dental dischargers that do not place dental amalgam, and do not remove amalgam except in limited emergency or unplanned, unanticipated circumstances, and that certify such to the City of Boulder Industrial Pretreatment Program as required in Part #7.

Part #4 General definitions.

The definitions included here are specific to these rules. Definitions of other terms used in these rules are the same as those contained in Section 11-3-3, B.R.C. 1981.

For purposes of this part:

(a) **Amalgam process wastewater** means any wastewater generated and discharged by a dental discharger through the practice of dentistry that may contain dental amalgam.

(b) **Amalgam separator** means a collection device designed to capture and remove dental amalgam from the amalgam process wastewater of a dental facility.

(c) **Dental amalgam** means an alloy of elemental mercury and other metal(s) that is used in the practice of dentistry.

(d) **Dental discharger** means a facility where the practice of dentistry is performed, including, but not limited to, institutions, permanent or temporary office, clinics, home offices, and facilities owned and operated by federal, state, or local governments, that discharges wastewater to the city’s POTW.

(e) **Existing sources** means a dental discharger that is not a new source.

(f) **Mobile unit** means a specialized mobile self-contained van, trailer, or equipment used in providing dentistry services at multiple locations.

(g) **New source** means a dental discharger whose first discharge to the city’s POTW occurs after July 14, 2017.

Part #5 Pretreatment standards for existing sources

(a) **Removal of dental amalgam solids from all amalgam process wastewater by the following methods:**

   (1) Installation, operation, and maintenance of one or more amalgam separators that meet the following requirements:

      (i) Compliant with either the American National Standards Institute (ANSI) American National Standard/American Dental Association (ADA) Specification 108 for Amalgam Separators (2009) with Technical Addendum (2011) or the International Organization for Standardization (ISO) 11143 Standard (2008) or subsequent versions so long as that version requires amalgam separators to achieve at least a 95% removal efficiency. Compliance must be assessed by an accredited testing laboratory under ANSI’s accreditation program for product certification or a testing laboratory that is a signatory to the International Laboratory Accreditation Cooperation’s Mutual Recognition Arrangement. The testing laboratory’s scope of accreditation must include ANSI/ADA 108-2009 or ISO 11143.

      (ii) The amalgam separator(s) must be sized to accommodate the maximum discharge rate of amalgam process wastewater.

      (iii) A dental discharger subject to these rules that operates an amalgam separator that was installed at a dental facility prior to June 14, 2017 and in accordance with Rule 11-1-3.B(07), satisfies the requirements of paragraphs (a)(1)(i) and (ii) of this section until the existing separator is replaced as described in paragraph (a)(1)(v) of this Part #5 or until June 14, 2027, whichever is sooner.
(iv) The amalgam separator(s) must be inspected in accordance with the manufacturer’s operating manual to ensure proper operation and maintenance of the separator(s) and to confirm that all amalgam process wastewater is flowing through the amalgam retaining portion of the amalgam separator(s).

(v) In the event that an amalgam separator is not functioning properly, the amalgam separator must be repaired consistent with manufacturer instruction or replaced with a unit that meets the requirements of paragraphs (a)(1) and (ii) of this section as soon as possible, but no later than 10 business days after the malfunction is discovered by the dental discharger, or an agent or representative of the dental discharger.

(vi) The amalgam retaining units must be replaced in accordance with the manufacturer’s schedule as specified in the manufacturer’s operating manual or when the amalgam retaining unit has reached the maximum level, as specified by the manufacturer in the operating manual, at which the amalgam separator can perform to the specified efficiency, whichever comes first.

(b) Implementation of the following best management practices (BMPs):

1. Waste amalgam including, but not limited to, dental amalgam from chair-side traps, screens, vacuum pump filters, dental tools, cuspidors, or collection devices, must not be discharged to the city’s POTW.

2. Dental unit water lines, chair-side traps, and vacuum lines that discharge amalgam process wastewater to the city’s POTW must not be cleaned with oxidizing or acidic cleaners, including but not limited to bleach, chlorine, iodine, and peroxide that have a pH lower than 6 or greater than 8.

Part #6 Pretreatment standards for new sources.

As of July 14, 2017, any new source subject these rules must comply with the requirements of these rules, specifically including Part #5 (a) and (b) and the reporting and recordkeeping requirements of Part #7.

Part #7 Reporting and recordkeeping requirements.

(a) Dental dischargers subject to these rules must comply with the following reporting requirements:

1. One-time compliance report deadlines. For existing sources, a one-time compliance report must be submitted to the city no later than February 15, 2019 or 90 days after a transfer of ownership. For new sources, a one-time compliance report must be submitted to the city no later than 90 days following the introduction of wastewater into the city’s POTW. The one-time compliance report must be submitted to the following address:

   Pretreatment Program
   Water Quality and Environmental Services
   City of Boulder
   4049 N 75th Street
   Boulder, CO 80301

2. Signature and certification. The one-time compliance report must be signed and certified by a responsible corporate officer, a general partner or proprietor if the dental discharger is a partnership or sole proprietorship, or a duly authorized representative in accordance with the requirements in Section 11-3-18(e), B.R.C. (1981) and 40 CFR 403.12(l).

3. Contents.

   (i) The one-time compliance report for dental dischargers subject to these rules that do not place or remove dental amalgam as described at Part #3(e) must include: the facility name, physical address, mailing address, contact information, name of the operator(s) and owner(s); and a certification statement that the dental discharger does not place dental amalgam and does not remove amalgam except in limited circumstances.

   (ii) The one-time compliance report for dental dischargers subject to the standards of these rules must include:
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(A) The facility name, physical address, mailing address, and contact information.
(B) Name(s) of the operator(s) and owner(s).
(C) A description of the operation at the dental facility including: The total number of chairs, the total number of chairs at which dental amalgam may be present in the resulting wastewater, and a description of any existing amalgam separator(s) or equivalent device(s) currently operated to include, at a minimum, the make, model, year of installation.
(D) Certification that the amalgam separator(s) or equivalent device is designed and will be operated and maintained to meet the requirements specified in Parts #5 and #6.
(E) Certification that the dental discharger is implementing BMPs specified in Part #5(b) and will continue to do so.
(F) The name of the third-party service provider that maintains the amalgam separator(s) operated at the dental office, if applicable. Otherwise, a brief description of the practices employed by the facility to ensure proper operation and maintenance in accordance with these rules.

(4) Transfer of ownership notification. If a dental discharger transfers ownership of the facility, the new owner must submit a new one-time compliance report to the city no later than 90 days after the transfer as required herein.

(5) Retention period. As long as a dental discharger is in operation, or until ownership is transferred, the dental discharger or an agent or representative of the dental discharger must maintain the one-time compliance report required by these rules and make it available for inspection in either physical or electronic form.

(b) Dental dischargers or an agent or representative of the dental discharger must maintain and make available for inspection in either physical or electronic form, for a minimum of three years:
   (1) Documentation of the date, person(s) conducting the inspection, and results of each inspection of the amalgam separator(s) and a summary of follow-up actions, if needed.
   (2) Documentation of amalgam retaining container replacement (including the date, as applicable).
   (3) Documentation of all dates that collected dental amalgam is picked up or shipped for proper disposal in accordance with 40 CFR 261.5(g)(3), and the name of the permitted or licensed treatment, storage, or disposal facility receiving the amalgam retaining containers.
   (4) Documentation of any repair or replacement of an amalgam separator, including the date, person(s) making the repair or replacement, and a description of the repair or replacement (including make and model).
   (5) Dischargers or an agent or representative of the dental discharger must maintain and make available for inspection in either physical or electronic form the manufacturers operations manual for the current device.

Part #8 Administrative – Recovery and/or Remedies

(a) Dental dischargers that handle amalgam and do not implement BMPs and install an amalgam separator as required by these rules, or otherwise fail to comply with requirements of these rules, will be subjected to enforcement. Names and offices will be published in the newspaper displayed as “NOTICE OF NONCOMPLIANCE”. Offices not completing compliance forms will likely be inspected by a city employee. Additional enforcement options include notices of violation, fines, and imprisonment.

(b) Remedies Nonexclusive. The remedies provided for in these rules are not exclusive. The city may take any, all, or any combination of actions against a noncompliant dental discharger. The city may take other action against any dental discharger when the circumstances warrant. Further, the city is empowered to take more than one enforcement action against any noncompliant dental discharger.