



Title	ES-301-2.07 Maintenance of Pretreatment Devices
Document Owner:	Tom Somers
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## 1) Activity Description: Maintenance of Pretreatment Devices

Maintenance of pretreatment devices - includes all devices used to alter the characteristics of water prior to discharge to either the sanitary or storm sewer systems. These devices include oil water separators, sand traps, grease traps, grit chambers, and sand filters. DEN tenants are responsible for providing maintenance and documenting maintenance activities for devices treating water connected with their operations. DEN is responsible for providing maintenance and documentation for City owned devices treating common use areas (e.g., main terminal and parking structures, concourses) and non-common use areas (e.g., Maintenance Center).

\* This EG is one of several specifically identified procedures for activities/facilities that are required by the Pollution Prevention/Good Housekeeping section of CCD's MS4 permit. Related procedures not specially addressed in this EG include, but not limited to, those identified in the Reference section of this document.

## 2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:

- Fuelspills
- Air pollution & odors
- Improper or inappropriate disposal of Wastes
- Sanitary sewer overflow
- Disposal of contaminated spill response media
- Contamination of soils
- Contamination of surface water
- Contamination of ground water
- Collection of wash water

B. Potential consequences from performing the activity incorrectly:

- Personal injury, property damage, or long-term damage to the environment
- Possible regulatory noncompliance, Notices of Violation, and related [financial & non-financial] penalties

## 3) Critical Requirements and Tasks

A. Prohibited Activities

- i) Sand/oil/grease and other waste material removed from the trap/interceptor should not be introduced into any drain, sewer, storm drain or natural body of water.
- ii) Do not decant water back into the trap/interceptor after removing the waste material.
- iii) Do not use hot water, acids, caustics, solvents, or emulsifying agents when cleaning grease traps and interceptors.
- iv) Do not utilize biological agents for grease remediation.

B. General Considerations

- i) The frequency of cleaning of is determined based on inspection.

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- ii) The cleaning and waste removal frequency is dependent upon the capacity of the trap/interceptor and the loading rate of sand, oil or grease in the effluent.
- iii) Schedule cleanout of pretreatment devices using contractors approved by the City and County of Denver (CCOD) Department of Public Works Wastewater Management Division (WMD) in order to comply with the agreed-on device maintenance schedule. ES-308-03.02 *Obtaining Department of Public Works Wastewater Management Approval of Pretreatment Device Maintenance Contractors* provides guidance for obtaining WMD approval for vendors/service companies.
- iv) Protect storm drain inlets and drains with curb socks, rock berms, inlet protection, or drain covers/mats prior to any activity.
- v) Leaking material containers should be properly discarded and replaced.
- vi) Monitor equipment for leaks and use drip pans as necessary.
- vii) If necessary, sweep or vacuum area once activities are complete.

**B. Employee Training**

- i) Training will be conducted as necessary to conduct the Activity as described herein and to inform employees of impacts associated with illegal discharges and improper disposal of waste from municipal operations.
- ii) Records of on-the-job training are not required. Records of formal employee training, if provided, shall be retained.
- iii) If maintenance activities are performed under DEN's Industrial Stormwater Management Plan, evidence of stormwater training is expected.
  - While formal certifications are not necessary, some form of "proof of training" (such as sign-in sheets and handouts) is expected and should be maintained on file.

**C. Storage & Material Handling Requirements**

- i) Maintain legible labels and markings on all containers and tanks.
- ii) Ensure adequate secondary containment for all bulk storage containers, and that all containers and containment are in good operating condition.
- iii) Tenants, operators, and contractors must dispose of all wastes collected from pretreatment devices according to all applicable local, state and federal regulations.

**D. Emergency Response**

- i) Call DEN Communications Center immediately at 303-342-4200 for all spills.
- ii) If a spill occurs, refer to Environmental Guideline ES-301-5.02 Spill Response.
- iii) Control spills to minimize property damage and eliminate imminent risk to human health and the environment.
- iv) Containerize all collected wastes and evaluate for labeling, storage and disposal.

**4) Inspection and Maintenance Requirements for Tenant Owned and Operated Devices**

A tenant, operator, or owner representative should be present when any pumping is being performed so that proper cleanout procedures by the contractor are ensured and the device is not damaged. Pumping companies are not allowed to decant water back into the device after

removing the solids without approval from DEN Environmental Services (ES). These fluids must be disposed of appropriately with the collected wastes and disposed off-site at an appropriately permitted facility.

Visually inspect pretreatment devices on a routine basis and do not allow the equipment to overflow. Devices should be kept on a regular cleaning schedule (typically monthly depending on usage) or when the device meets the following criteria:

- Pump out the grease/oil cap when it reaches 12" cap and/or 9" of solids on the bottom of the trap.
- Pump out the sand trap when 9"+ of solids accumulate on the bottom of the trap or 4" or more of oil is observed in the trap.
- Review the attached Pretreatment Device Inspection Checklist for further instruction.

Visually inspect pretreatment devices after cleanout for any damage to the system. If any damage is noted, notify the DEN Director of Environmental Programs immediately.

#### Expected Records / Outputs:

- If the facility is not on a regular cleaning schedule, the Tenant Pretreatment Device Measurement Record (or other similar record of inspection) should be completed at least once a month to demonstrate that the device does not need cleaning.
- For tenant and operator facilities, invoices should be maintained on file at the tenant / operator site and available for review by DEN ES.
- If maintenance activities are performed under DEN's Industrial Stormwater Management Plan, complete the SWMP Industrial Activities Survey/Matrix (Appendix B).
  - Obtain a copy of this document from DEN ES or from Appendix B of the SWMP.
  - Complete and return to ES for evaluation. Retain a copy with user's SWMP.

#### **5) Inspection and Maintenance Requirements for DEN Owned and Operated Devices**

The DEN Contract Maintenance Section provides maintenance and documentation for City owned pretreatment devices treating common use areas and non-common use areas. These include pretreatment devices located in following areas; A, B, and C concourses, ARFF stations, CRON East and West, terminal parking structures, terminal baggage tunnels, DEN facilities including the Fleet Maintenance Center, Paint Shop, and Building Maintenance Shop.

Due to the potential of spills entering the clean water system, DEN ES will conduct additional inspections of pretreatment devices located at the following areas; monthly inspections at the DEN Maintenance Center fuel island and the 78<sup>th</sup> Ave Bus Facility fuel island, and annual inspections of the terminal parking structure (sand traps only) and DS RON east and west (oil water separators). These inspections are in addition to the DEN Contract Maintenance scheduled inspections of these devices. Contract Maintenance will be notified and is responsible for providing maintenance activities if required.

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- Results of these inspections are kept electronically in the EMS Portal/ES Data Files/Water/Pretreatment Device/ES Pretreatment Device Inspections. The form template is stored at ES Data Files/Recordkeeping Forms/ES Pretreatment Device Inspection Form.

Expected Records / Outputs:

- Records for devices maintained by DEN are maintained by DEN Contract Maintenance Section.
- Annual yellow grease collection totals shall be submitted to DEN ES for inclusion into the DEN Environmental Annual Report.

**6) References**

A. Phone Numbers

DEN Communications Center (for Spill Reporting)..... (303) 342-4200  
 Tom Somers (DEN Environmental Services)..... (303) 342-2733  
 DEN Environmental Services (Main Line)..... (303) 342-2730

B. Guidance Materials (list not limited to the following)

- MSDSs
- DEN Stormwater Management Plan (SWMP)
- DOT Labeling and Placarding Guidance
- SPCC Plan

C. Related Environmental Guidelines (list not limited to the following):

Note: The following list identifies procedures related to MS4 Operations and Maintenance Procedures but may not be all-inclusive. The following procedures are considered primary documents for purposes of compliance with the MS4 permit.

- ES-301-1.02 Cleaning/Washing – Aircraft, Vehicles, and Equipment
- ES-301-1.07 Storage of Vehicles and Equipment Containing Chemicals
- ES-301-2.05 Cleaning/Washing – Indoor Industrial Surfaces
- ES-301-3.01 Construction
- ES-301-3.02 Planning and Design
- ES-301-4.01 Management of Pesticides and Herbicides
- ES-301-4.03 Cleaning/Washing – Outdoor Areas and Structures
- ES-301-4.06 Pavement Deicing
- ES-301-4.08 Inspection and Maintenance of MS4 Structural Controls
- ES-301-5.02 Spill Response
- ES-301-6.01 General Waste Management

D. Applicable Regulations (list not limited to the following)

Always refer to the on-line DEN EMS document library prior to use to ensure you are using the most current copy. All other versions are UNCONTROLLED.

- 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
- 40 CFR 122-124 NPDES Regulations for Storm Water Discharges
- 40 CFR 260-262-273 Federal RCRA Regulations
- 40 CFR 150-189 Federal Insecticide, Fungicide and Rodenticide Act Regulations
- 6 CCR 1007-3, Part 261 State RCRA Regulations
- City and County of Denver Municipal Separate Storm Sewer System (MS4) Permit
- City and County of Denver Pesticide Discharge Management Plan
- CCoD Ordinances
- Denver Wastewater Management Division Rules and Regulations
- Metro Wastewater Reclamation District Rules and Regulations
- DEN Rules and Regulations
- City and County of Denver Mayor's Executive Orders

E. Other Documents

- DEN Managers Bulletins
- CCoD Executive Orders

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Denver International Airport  
Environmental Services - AOB  
8500 Pena Blvd.  
Denver CO 80249

Tom Somers – DEN Environmental Services 303/342-2733  
Fax 303/342-2677

**TENANT PRETREATMENT DEVICE UPDATE FORM**

Note: To be completed when changes occur with pumping schedule or device status. Submit completed forms to DEN Environmental Services using the fax number provided above or email to: tom.somers@flydenver.com

**Business Information**

Name of Business \_\_\_\_\_

Address of Business \_\_\_\_\_

(Street Address)

\_\_\_\_\_  
(City, State & Zip)

Manager Name \_\_\_\_\_

Phone Number \_\_\_\_\_

Email Address \_\_\_\_\_

**Device Information**

Capacity and type of pretreatment device(s): **NOTE:** OWS are connected the clean water system. SOG's and sand traps are connected to the sanitary sewer system. Continue on back if necessary.

#1 \_\_\_\_\_ #2 \_\_\_\_\_ #3 \_\_\_\_\_

#4 \_\_\_\_\_ #5 \_\_\_\_\_ #6 \_\_\_\_\_

Include updated location drawings to DEN Environmental Services with this form.

**Service Information**

Name of company who cleans your pretreatment devices: \_\_\_\_\_

How often do you clean your pretreatment devices? \_\_\_\_\_

Date last cleaned: \_\_\_\_\_

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Your Name \_\_\_\_\_  
(Printed)  
Signature \_\_\_\_\_  
Date \_\_\_\_\_

File Code for DEN maintained devices: 09.18.03.05.01.01.02



Denver International Airport  
 Environmental Services - AOB  
 8500 Pena Blvd.  
 Denver CO 80249

**TENANT PRETREATMENT DEVICE MEASUREMENT RECORD**

Note: Complete this form, or similar, monthly for each device not on a set pumping schedule. Inspection records and invoices should be maintained on file at the tenant / operator site and available for review by DEN ES.

Name of business: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Pretreatment Device Type <sup>1,2</sup>	Location <sup>3</sup>	Date Checked	Thickness of Sediment <sup>4,5,6,7</sup>	Oil Thickness

<sup>1</sup> SOG – sand, oil, or grease trap (to sanitary)  
<sup>2</sup> O/W – oil/water separator (to storm sewer)  
<sup>3</sup> For example – NE/C of building (northeast corner)  
<sup>4</sup> Describe method of measurement – Pump out the grease/oil cap when it reaches 12” and/or 9” of solids on the bottom of the trap.  
<sup>5</sup> Describe method of measurement – Pump out the sand trap when 9”+ of solids accumulate on the bottom of the trap or 4” or more of oil is observed in the trap.  
<sup>6</sup> Grease traps should be pumped at least annually.

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<sup>7</sup> All traps to be inspected at least annually.

## PRETREATMENT DEVICE INSPECTION CHECKLIST

### *Materials and Supplies:*

- 1) Gloves
- 2) 3' – 4' wooden sticks
- 3) Kolor Kut (water finding paste)
- 4) Mirror/flashlight
- 5) Manhole hook w/pry bar
- 6) Duct or masking tape

### *Inspection:*

- 1) Remove manhole cover.
- 2) Inspect interceptor: Make sure sweeps are intact, clean-out caps in place, and check for any irregularities.
- 3) Check oil and grease concentration either visually or with color paste.
- 4) Measure solids with wooden sticks (oil and grease will stain the paint job on a vehicle – dispose of properly).
- 5) If needed, schedule pumping of interceptor.

NOTE: Keep accurate records of who cleans the interceptors and when the interceptors are pumped. Tenants should submit cleaning records to DEN Environmental Services after each cleaning. Maintain monthly monitoring form and file at facility - must be readily available for investigator review.

**Definitely** be present when any pumping is being performed. You want to verify that the pumping company is doing their job correctly. Some pumping companies might decant the water back into your interceptor after removing the solids. This activity is not permitted on DEN without prior approval from DEN Environmental Services. This activity increases the potential for spills to occur and could also break a sweep in the interceptor. Also, when the interceptor is empty you can visually inspect the interceptor without any debris obstructing your view.

If you have any questions, please do not hesitate to call.

Zeke Zarco, Chief Inspector (WMD) 303/446-3668

Frances Wisner, Water Quality Investigator (WMD) 303/446-3672

Environmental Services (DEN) 303/342-2730

Tom Somers, Environmental Services (DEN) 303/342-2733

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