



Title	ES-301-4.05 Remediation of Contaminated Soils
Document Owner:	John Hambright
Revision Date:	January 2, 2019

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.

1) Activity Description: Remediation of Contaminated Soils

This environmental guideline addresses activities to be considered prior to, during, and at the conclusion of the remediation of contaminated media generated by activities or otherwise encountered on DEN property.

2) Potential Environmental Risks

- A. The following environmental concerns are associated with these activities:
 - i) Contamination of clean soils
 - ii) Contamination of surface water
 - iii) Contamination of groundwater
 - iv) Air pollution and odors
 - v) Improper or inappropriate disposal of contaminated media

- B. Potential consequences from performing the activity incorrectly:
 - i) Property damage, personal injury, or damage to the environment
 - ii) Regulatory and judicial enforcement actions and related [financial and non-financial] penalties

3) Critical Operating Requirements

- A. Prohibited Activities
 - i) Disposing of contaminated soils on DEN property.
 - ii) Washing any soils into any drain.

- B. General Considerations
 - i) Each airport tenant, contractor, and operator conducting remediation activities is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance and does not supersede any regulations.
 - ii) As possible, separate clean from contaminated materials to minimize the volume of material requiring remediation and/or disposal. Cover staged contaminated materials to prevent off-site transport by wind or runoff.
 - iii) Ensure that the site is remediated in accordance with applicable regulations. The regulatory authority/jurisdiction is based on the source of the contamination (e.g., cleanup of contamination resulting from a state-regulated underground or aboveground storage tank is regulated by CDLE/OPS; cleanup of a site with contamination caused by oil and gas exploration activities is regulated by COGCC). It is the responsibility of the operator of the site or regulated unit to ensure that the remediation is completed in accordance with applicable regulations.

- C. Training Requirements
 - i) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater pollution prevention (SWPP) training shall address topics such as spill response, good housekeeping, and material management practices.

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.

- ii) Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

D. Storage and Materials Management Requirements

- i) None.

4) Planning Requirements

- A. Develop a plan for identifying materials needing remediation, remediation approach to take regarding the contaminated materials, and method(s) of confirmation of remediation results prior to conducting any remediation activities.
- B. Ensure that all required permits, regulatory approvals, utility clearances, access agreements, and FAA approval (if required) are obtained prior to conducting any remediation activities.
- C. A DEN Access Permit and Work Plan are required for any intrusive work (other than construction projects) performed by tenants, contractors, or their representatives on DEN property. See Environmental Guideline ES-301-3.01 Construction for construction-related planning requirements.

5) Critical Tasks

- A. All proposed remediation systems and plans should be reviewed by DEN Environmental Services (ES) prior to initiation. This includes work plans, designs, and permit applications. Plans and permits approved by regulatory authorities should be copied to DEN ES.

6) Emergency Response

- A. If a spill occurs, refer to Environmental Guideline ES-301-5.02 Spill Response.
 - i) Call DEN Communications Center immediately at 303-342-4200 for all spills.

7) Inspection and Maintenance Requirements

- A. DEN Access Permits contain provisions for notifying DEN ES prior to initiating field work. DEN ES may perform site inspections and oversight during remediation activities at their discretion.

8) Expected Records and Outputs

- A. Remediation plan reviewed by DEN ES and approved by appropriate regulatory agency
 - i) These plans should be submitted to DEN ES for review before submittal to the appropriate agency.
 - ii) Finalized plans should be copied to DEN ES following approval by the appropriate agency.
- B. A DEN Access Permit and Work Plan for use of DEN property and instructions from Airport Legal Services
 - i) Access Permits and Work Plans are required of tenants, contractors, or their representatives prior to performing intrusive work on DEN property.

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.

- ii) Additional instructions on specific site use will be prepared on a case-by-case basis by Airport Legal Services.
- C. Waste management records (profiles, manifests, sample results, etc.)
- i) A waste profile will be required by the disposal facility prior to shipping to them.
 - ii) Based on the disposal profile, manifests and related forms may be required. Manifests and profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous waste).
 - iii) Operator must maintain certain waste management records at the facility for a minimum of 3 years.
- D. Analytical results and monitoring reports
- i) Copies of final laboratory analyses must be provided to DEN ES.
- E. Clean closure certification documents
- i) These documents may be required by the applicable regulatory agency.
 - ii) These documents may be required in the DEN Access Permit.
 - iii) These documents should be copied to DEN ES upon receipt.

9) References

- A. Phone Numbers
- i) DEN Communications Center (for spill reporting) (303) 342-4200
 - ii) DEN Environmental Services (Main Line) (303) 342-2730
 - iii) John Hambright (DEN Environmental Services) (303) 342-2759
- B. Guidance Materials (list is not limited to the following)
- i) Colorado Division of Oil and Public Safety (OPS) Petroleum Storage Tank Owner/Operator Guidance Document
 - ii) DEN Manager's Bulletins
 - iii) USEPA and CDPHE guidance on remediation criteria and solid waste handling
- C. Training Materials (list is not limited to the following)
- i) None
- D. Related Environmental Documents (list is not limited to the following)
- i) ES-301-5.02 Spill Response
 - ii) ES-301-6.01 General Waste Management
- E. Applicable Regulations (list is not limited to the following)
- i) Colorado OPS Storage Tank Regulations 7 CCR 1101-14
 - ii) Colorado Oil and Gas Conservation Commission (COGCC) Regulations, 2 CCR 404-1 (900 and 1100 Series)
 - iii) DEN Rules and Regulations
 - iv) CDPHE Soil Remediation Objectives Policy Document, 12/31/1997 (Note: the table values in this document [Table 1 – Soil Cleanup Table Value Standards] were replaced with table

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.

values in the December 2007 document [Table 1 - Colorado Soil Evaluation Values (CSEV)] cited below)

- v) CDPHE/HMWMD Table 1 - Colorado Soil Evaluation Values (CSEV), December 2007 (Note: the table values presented in this document replace the outdated table values presented in the 12/31/97 Soil Remediation Objectives [SRO] policy document cited above)
- vi) CDPHE/HMWMD Booklet titled "Information Regarding the Management of Petroleum-contaminated Soil" – October 2003

F. Other Documents (list is not limited to the following)

- i) None