



Douglas A. Ducey
Governor

ARIZONA DEPARTMENT
OF
ENVIRONMENTAL QUALITY



Henry R. Darwin
Director

March 2, 2015
PRU15-084
LTF # 61895

Matt Morales, P.E.
City of Flagstaff
211 W. Aspen Avenue
Flagstaff, AZ 86001

**Re: Cinder Lake Landfill (CLL), Type III Change for Paper Millings Storage in Sequence E
Master Facility Plan Approval No. 03002400.05**

Dear Mr. Morales:

The Arizona Department of Environmental Quality (ADEQ), Permits and Plan Review Unit has received and reviewed the *Sludge Storage Conceptual Design Report, Cinder Lake Landfill*, dated January 2015, prepared by URS. Based on the review, ADEQ has approved the Type III Change, and has issued the enclosed *Master Facility Plan Approval Number 03002400.05*. A copy of this approval must be placed in the Cinder Lake Landfill operating record.

Note: A compliance inspector will conduct a site inspection of this facility within 90 days of the date of this letter (June 1, 2015).

This decision is an appealable agency action under A.R.S. § 41-1092. You have a right to request a hearing and file an appeal under A.R.S. § 41-1092.03(B). You must file a written *Request for Hearing* or *Notice of Appeal* within 30 days of your receipt of this letter. A *Request for Hearing* or *Notice of Appeal* is filed when it is received by ADEQ's Hearing Administrator at the following address:

Hearing Administrator
Office of Administrative Counsel
Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix, AZ 85007

The *Request for Hearing* or *Notice of Appeal* shall identify the party, the party's address, the agency and the action being appealed and shall contain a concise statement of the reasons for the appeal. Upon proper filing of a *Request for Hearing* or *Notice of Appeal*, ADEQ will serve a *Notice of Hearing* on all parties to the appeal. If you file a timely *Request for Hearing* or *Notice*

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of Appeal you have a right to request an informal settlement conference with ADEQ under A.R.S. § 41-1092.06. This request must be made in writing no later than twenty (20) days before a scheduled hearing and must be filed with the Hearing Administrator at the above address.

If you have any questions regarding this letter, please contact Mike Prigge, P.E., of my staff at (602) 771-4136 or toll-free at (800) 234-5677, ext. 771-4136.

Sincerely,



Anthony Leverock, P.E.
Manager
Permits and Plan Review Unit

cc: facility file

Enclosures: *Master Facility Plan Approval No. 03002400.05*
Compliance Checklist



Douglas A. Ducey
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY



Henry R. Darwin
Director

MUNICIPAL SOLID WASTE LANDFILL MASTER FACILITY PLAN APPROVAL NUMBER 03002400.05 (LTF #61895, Place ID 1138)

1.0 Facility Information and Approval Signature

In accordance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 4:

Facility Name: Cinder Lake Landfill (CLL)
6770 E. Landfill Road
Flagstaff, Arizona 86004

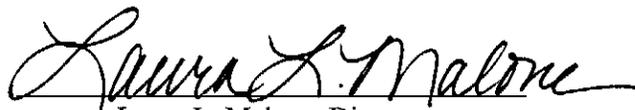
Owner/Operator: City of Flagstaff
211 West Aspen Avenue
Flagstaff, Arizona 86001

is authorized to operate with all approvals granted under 40 CFR Part 258, and not previously amended or revoked, since the original Solid Waste Facility Plan Approval on October 22, 1999, and specifically described in the Master Facility Plan Approval that follows. The CLL is located approximately 12 miles north of Flagstaff, Arizona, and approximately 1 mile east of Highway 89 in Coconino County. The facility is located in Sections 2 and 11, Township 22 North, Range 8 East, of the Gila and Salt River Base Line and Meridian.

Latitude: 35° 18' 25" North
Longitude: 111° 31' 10" West

This Master Facility Plan Approval shall be deemed effective on the date of the Waste Programs Division Director's signature below, provided that the facility is operated and maintained in accordance with all the conditions described in the remainder of this approval document.

Approved on behalf of the Arizona Department of Environmental Quality:


Laura L. Malone, Director
Waste Programs Division

Signed this 26th day of February, 2015

1.1 Approval

This Municipal Solid Waste Landfill Master Facility Plan Approval (MFPA) incorporates a Type III Change that allows the City of Flagstaff (COF) to utilize Sequence E for the storage of paper millings in accordance with Section 1.2 of this MFPA and the *Sludge Storage Conceptual Design Report, Cinder Lake Landfill*, dated January 2015, prepared by URS. This Type III Change modifies the August 29, 2011, approval that allowed the material to be stored in Sequence D.

This MFPA allows COF to operate the existing Subtitle D regulated municipal solid waste landfill facility designated as Cinder Lake Landfill at the location described in Part 1.0 of this approval. The existing approved CLL waste footprint is unlined, and comprised of Areas A, B and C, which total 110 acres of the 175-acre facility. A lined lateral expansion of the waste footprint of approximately 136 acres (Areas D and E) is planned for waste filling operations when the capacity of the existing waste footprint is exhausted. The planned lateral expansion will increase the total landfill property from 175 acres to 344 acres. The landfill layout and sequencing of Areas A, B, C, D and E are shown in Drawing 5 of the original Solid Waste Facility Plan (SWFP), dated May 5, 1998, prepared by Woodward-Clyde Consultants. COF must submit detailed plans and specifications for the lateral expansion prior to the installation of the liner and leachate collection system.

1.2 Storage of Paper Millings

To reduce the soil deficit at CLL, COF uses recycled paper millings, produced by SCA Tissue North America, L.L.C., as landfill ADC, which was approved by ADEQ on November 13, 1998. COF has secured contractual obligations for this material for several years, and to meet the requirements of storing approximately 532,000 cubic yards (yd³) over the next 20 years, requires a new storage location since the current stockpile location over one of the active cells is becoming an obstruction to daily landfill operations.

- a. The northern portions of Sequences E2, E3, E4 and E5 (approximately 19 acres) are approved for the storage of paper millings as described in Section 4.0 of the *Sludge Storage Conceptual Design Report*, and shown on Sheet Nos. 1, 2 and 3, contained therein.
 - i. After the ground surface is excavated in Sequence E to a design elevation (EL) of 6,628 ft, paper millings shall be placed in an 8-foot thick lift to EL 6,636 ft. Two (2) feet of cover soil shall be placed on top to EL 6,638 ft. Excavation slopes shall be approximately 2:1 (horizontal:vertical) and side slopes for all lifts shall be no greater than 3H:1V. A ten (10)-foot bench shall be included at EL 6,638 ft before the next lift is started.
 - ii. Another 8-foot thick lift of paper millings shall be placed to EL 6,646 ft and covered with two (2) feet of soil to EL 6,648 ft. Another ten (10)-foot bench shall be included at EL 6,648 before the final lift is placed.
 - iii. The final 4-foot thick lift of paper millings shall be placed to EL 6,652 ft and covered with two (2) feet of soil to EL 6,654 ft.
- b. In order to accurately account for the volume of stored paper millings at CLL, COF shall submit an annual report to ADEQ. The first annual report shall be submitted by March 1,

2016, and shall be due on March 1st each year thereafter until COF is released from this requirement by ADEQ. The annual report shall include a discussion of the following:

- Plan sets showing the change in stockpiled paper millings within Sequence E
 - Any necessary monitoring conducted within the cell
 - Any results from permeability studies and research conducted
- c. A third party shall be contracted to provide annual cost estimates for removal and disposal of the stockpiled paper millings. Cost estimates shall be sealed by an Arizona registered professional engineer and included as part of the closure costs for CLL as required by Section 2.5 of this MFPA.

2.0 STATUTORY PROVISIONS

COF shall not operate CLL in a manner inconsistent with the SWFP approved October 22, 1999, subsequent amendments and this approval pursuant to A.R.S. § 49-791(A)(5).

2.1 General Provisions

- a. This MFPA, issued pursuant to A.R.S. §49-762, § 762.03, § 762.04, § 762.06 and § 857, grants permission to operate a municipal solid waste landfill as defined in A.R.S. § 49-701(20) at the location referenced in Part 1.0. Federal regulations governing the design and operation of landfills, codified in 40 CFR § 258, are also applicable to this approval pursuant to A.R.S. § 49-761(B). This approval is granted under the conditions listed herein to protect human health and the environment.
- b. This MFPA does not relieve COF of its responsibility to comply with federal, state, county or local requirements or ordinances adopted under A.R.S. §49-704 and shall not be construed as permission to create a public health hazard, environmental nuisance or cause contamination to the environment.
- c. Specific words related to landfill design, construction, operations, etc., used throughout this MFPA have the same meaning as defined in 40 CFR § 258, Subpart A, Arizona Administrative Code (A.A.C.) R18-13-701, A.A.C. R18-13-1301, A.A.C. R18-13-1401, or A.R.S.§§ 49-701 and 701.01 unless otherwise defined.
- d. Design, construction, operation, and monitoring conditions listed in this MFPA have the same meaning as referenced in either 40 CFR § 258; A.A.C. Title 18, Chapter 13; or A.R.S. Title 49, unless otherwise specified.
- e. All previously approved modifications to the original CLL SWFP approval remain in effect.

2.2 General Limitations

- a. This MFPA is applied to the landfill elements and facility structures as set forth in the SWFP, the existing landfill elements and structures as of the date of this approval, and components that have already received ADEQ approval prior to this MFPA. Any additions to the approved facility structures and any modification to the approved facility operations plan, closure and post-closure care, corrective action and monitoring plans shall require prior approval by ADEQ pursuant to A.R.S. § 49-762.06.

- b. CLL is not permitted to accept the following:
1. Hazardous waste as defined in 40 CFR Part 261 and A.R.S. § 49-921 except for conditionally exempt small quantity generator hazardous waste as set forth in 40 CFR § 261.5 and A.R.S. § 49-922(E), and household hazardous waste as described in 40 CFR § 261.4(b)(1).
 2. Biohazardous medical waste defined in A.A.C. R18-13-1401(5), except for household generated biohazardous medical waste as set forth in A.A.C. R18-13-1403(A)(4).
 3. Bulk or non-containerized liquid waste as defined in 40 CFR § 258.28.
 4. Polychlorinated biphenyl (PCB) waste as defined in 40 CFR Part 761, except as allowed under 40 CFR Part 761.
 5. Used oil as defined in 40 CFR Part 279.
 6. Friable asbestos containing material as defined in 40 CFR § 61.141.
 7. Appliances that may vent or otherwise release into the environment any Class I or Class II refrigerant, including chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) as defined in Section 608 of the Clean Air Act and 40 CFR § 82.154.
 8. Waste from shredding motor vehicles as set forth in the statutory list of special wastes per A.R.S. § 49-852(A)(2).
 9. Petroleum contaminated soil as defined in A.R.S. § 49-851(A)(3).
 10. Explosive materials.
 11. Pesticide containers.
 12. Septage.
 13. Non-dewatered sewage sludge.
 14. Tires; however, shredded tires may be used as ADC.
 15. Industrial/Commercial process waste, unless a waste acceptance application form is provided by the generator that demonstrates that the waste is non-hazardous.
 16. Any other waste prohibited by federal or State of Arizona statute or regulation from disposal at any municipal solid waste landfill.

2.3 Notifications

- a. The CLL shall submit a notification of any Type II, III, or IV changes to the approved solid waste facility plan in accordance with A.R.S. § 49-762.06. COF shall not implement any Type III or IV changes prior to ADEQ approval.

- b. The following notifications are required if there is a methane gas exceedance:
 - 1. Within 24 hours of any methane gas exceedance where the gas concentration in facility structures exceeds 25% of the lower explosive limit or gas levels at the landfill boundary exceed the lower explosive limit, COF shall notify ADEQ.
 - 2. Within seven (7) days of detection, COF shall place in the operating record a description of the steps taken to protect human health. A copy of this description shall be sent to the ADEQ Solid Waste Plan Review Unit.
 - 3. Within 60 days of detection of any methane gas exceedance, a remediation plan shall be implemented and a copy of the plan placed in the operating record. A copy of the plan, accompanied by a notification that the plan has been implemented, shall be sent to ADEQ in accordance with 40 CFR § 258.23.

2.4 Precautionary Provisions

- a. ADEQ reserves the right to issue administrative orders pursuant to A.R.S. § 49-781 and 862 or to seek other legal remedies as provided by law if the CLL creates a public health hazard, safety hazard, or environmental nuisance, if violation of State law occurs, or if the CLL is in violation of the MFPA.
- b. ADEQ reserves the right to conduct inspections of CLL pursuant to A.A.C. R18-13-304, A.R.S. §§ 49-763, 860 and 865. During the inspection, the ADEQ inspector may take photographs of activities, take samples, and/or conduct other recognized monitoring activities.
- c. Pursuant to A.R.S. § 49-782(A), ADEQ reserves the right to suspend, amend, withdraw, condition, or revoke this MFPA if it is determined that the facility is in violation of A.R.S. Title 49, Chapter 4, or any rule adopted thereunder.

2.5 Financial Assurance

- a. CLL shall continue to meet closure and post-closure care financial assurance requirements as per A.R.S. § 49-770 and 40 CFR 258, Subpart G until released by notification from ADEQ.
- b. The cost estimate for landfill closure and post-closure care shall be updated annually:
 - 1. By a new cost estimate sealed by an Arizona registered professional engineer; or
 - 2. If no changes have occurred since the preceding year's submittal, by use of an approved or demonstrated inflation factor that modifies the existing cost estimates.
- c. Landfill cost estimates for closure and post-closure care shall be updated whenever a Type III or Type IV change to the solid waste facility will result in an increase in either closure or post-closure costs.

3.0 OPERATIONAL APPROVALS AND CONDITIONS

3.1 Approval of the Facility Plan

This MFPA, issued pursuant to A.R.S. §§ 49-762, 762.03, 762.04, 762.06 and 857, grants permission to operate CLL as set forth in the SWFP.

- a. The following wastes may be accepted at the CLL facility:
 1. Municipal solid waste as defined in 40 CFR § 258.2 which includes household waste (A.R.S. § 49-701(14)), household hazardous waste (A.R.S. § 49-701(13)) commercial solid waste, non-hazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste.
 2. Vegetative (green) waste as defined in A.R.S. § 49-701(36).
 3. Construction debris and demolition debris as defined in A.R.S. §§ 49-701(5) and 49-701(7), respectively.
 4. Inert materials as defined in A.R.S. § 49-701(15).
 5. Household biohazardous medical waste when commingled with household wastes.
 6. Animal carcasses, except those that meet the definition of biohazardous medical waste in A.A.C. R18-13-1401(5)(e). All animal carcasses shall be covered immediately.
 7. Household appliances; however, prior to disposal CFC-containing appliances must conform to the requirements of 40 CFR 82 Subparts E and F.
 8. Non-friable asbestos containing materials.
 9. RCRA-empty containers as defined by 40 CFR § 261.7.
 10. Paper pulp sludge (paper millings from SCA Tissue North America, L.L.C.)

3.2 Approved Alternative Daily Cover (ADC)

This MFPA grants permission to apply ADCs at CLL. The following conditions shall govern all ADC use at CLL:

- a. Should the application of any ADC become impracticable or contribute to conditions hazardous to public health, safety, or the environment, then CLL shall terminate such use and revert to using compacted earthen material, cinders or other approved ADC.
- b. COF shall place compacted earthen material or cinders over the entire working face at the end of any operating day preceding a period of time when the facility is closed for more than twenty-four (24) hours.
- c. All waste-derived materials used as ADC shall be subject to solid waste landfill disposal fees.

- d. A minimum of a one (1) day stockpile of earthen cover material or cinders and required equipment shall be available to ensure a corrective response to any violation of performance of any ADC.
- e. The following are approved landfill ADC:
 1. Chopped or shredded vegetative waste as defined in A.R.S. § 49-701(36) (approved on 10/13/1995):
 - i. Vegetative waste shall only be used as ADC on the inclined slope portion of the daily refuse cell.
 - ii. Vegetative waste must be shredded to pass through a 5-inch equivalent debris screen prior to placement.
 - iii. Vegetative waste cover must be approximately 12 inches thick.
 - iv. If vegetative waste is exposed for longer than 7 days, it must be rewetted by a water truck to ensure a minimum water content of 15%.
 - v. Slopes covered by vegetative waste shall not be exposed more than 21 days.
 2. Paper millings (approved on 11/13/1998):
 - i. Paper millings cover must be approximately twelve (12) inches thick.
 - ii. Paper millings must have a minimum moisture content of 65%. If the material begins to dry and becomes a dust nuisance, sufficient water shall be applied immediately to eliminate the dust.
 - iii. Paper millings shall not be used as ADC during severe rainy conditions.
 - iv. Paper millings shall not be exposed for more than 30 days.
 3. Shredded tires (approved on 10/22/1999):
 - i. Shredded tire pieces shall not exceed four (4) inches in diameter.
 - ii. Shredded tires shall not be used as ADC for more than two (2) consecutive days at a time.
 4. Crushed glass (approved on 2/28/2008):
 - i. The particle size of crushed glass utilized for ADC shall range between 0.19 inches to 0.75 inches, which is the range provided by the United Soil Classification System for fine gravel.
 - ii. Crushed glass cover shall be approximately twelve (12) inches thick.
 - iii. Crushed glass shall not be exposed for more than 21 days.

5. Ground wood waste (approved on 8/29/2011):
 - i. Ground wood waste pieces averaging 3 inches long and 0.5 inches thick (maximum 6 inches long and 2 inches thick) may be mixed at various ratios with other approved ADC. The minimum cover thickness of the mixture shall be eight (8) inches.
 - ii. Wood waste processed for use as ADC may consist of lumber, engineered wood products (laminated wood, plywood, particle board, wafer board, and oriented strand board) and pallets. Wood waste that contains large chunks of drywall or steel shall not be accepted for grinding as ADC. Incidental small bits of drywall and steel attached to lumber or other construction and demolition debris are acceptable, but filtering the stockpiled wood waste with a grapple is required to remove as much metal, drywall and other debris as possible.
 - iii. Ground wood waste shall be wetted, as needed, to prevent the spread of dust and minimize fire hazards.

3.3 Operational Provisions

Pursuant to A.R.S. Title 49, Chapter 4, Article 4, ADEQ requires that COF must:

- a. Operate CLL in a manner that protects public health and safety and the environment and prevents and abates environmental nuisances.
- b. Control wind dispersion and other surface dispersions of the landfill materials so that they do not create a public nuisance or pose an imminent and substantial endangerment to public health or the environment. Visible materials that have dispersed beyond the boundaries of the current work face shall be collected on a regular basis.
- c. Cover disposed solid waste with six (6) inches of earthen material or approved ADC at the end of each operating day to control vectors, fires, odors, blowing litter, and scavenging.
- d. Prevent or control on-site populations of disease vectors using techniques appropriate for the protection of human health and the environment.
- e. Ensure that the concentration of methane gas generated by the facility does not exceed 25 percent (%) of the lower explosive limit for methane in facility structures and the lower explosive limit at the property boundary.
- f. Ensure that the landfill units do not violate any applicable requirements developed under a State Implementation Plan approved by the EPA Administrator pursuant to Section 110 of the Clean Air Act, as amended.
- g. Control public access and prevent unauthorized vehicular traffic and illegal dumping of wastes by using artificial barriers, natural barriers, or both, as appropriate.
- h. Ensure that there is no discharge of pollutants into waters of the United States from the landfill.

- i. Ensure that bulk or non-containerized liquids are not placed in the landfill.
- j. Record and retain in a daily operating record for the following items:
 - 1. Any location restriction demonstrations required under 40 CFR § 258, Subpart B.
 - 2. Random inspection, training and notification documentation required by 40 CFR § 258.20.
 - 3. Gas monitoring results and any remediation plans required by 40 CFR § 258.23.
 - 4. Municipal solid waste landfill unit design documentation for placement of leachate and/or gas condensate in a landfill cell as required by 40 CFR § 258.28(a)(2).
 - 5. Vadose zone monitoring, corrective action sampling, analytical data, demonstrations, certifications, findings, etc. as required under 40 CFR § 258, Subpart E and amended by Section 3.5 of this MFPA.
 - 6. Closure and post-closure care plans and monitoring, testing and/or analytical data as required by 40 CFR §§ 258.60 and 258.61.
 - 7. Financial assurance documentation required by 40 CFR § 258, Subpart G.

3.4 Stormwater Management

- a. The proper control of surface water drainage shall be implemented to prevent stormwater from running onto the active portion of the landfill. Any soil erosion of the landfill cover or ponding of stormwater on the landfill must be corrected to ensure proper coverage of waste and stormwater management in the landfill area pursuant to 40 CFR § 258.26.
- b. The drainage diversion system must be capable of diverting surface water run-on and run-off resulting from a rainfall event equal to a 24-hour, 25-year storm away from the active landfill areas in accordance with 40 CFR § 258.26.
- c. CLL units shall not cause the discharge of pollutants into waters of the United States.
- d. All surface water collection systems shall be constructed to resist the maximum horizontal acceleration in lithified earth at this site.

3.5 Groundwater Monitoring

The groundwater monitoring requirements of 40 CFR §§ 258.51 through 258.55 have been suspended at CLL based on a demonstration approved by ADEQ on September 17, 1996, under the authority of 40 CFR § 258.50(b). In lieu of groundwater monitoring, quarterly soil moisture monitoring via neutron probe in vadose zone monitoring wells V-1, V-3, V-4 and V-5 shall continue in accordance with *SWFP Approval No. 03002400.01*, dated July 2, 2002.

3.6 New Construction

- a. All future construction shall follow ADEQ approved designs, drawings and specifications.

- b. Pursuant to A.R.S. § 49-762.06, COF shall submit a notification to ADEQ of any Type II, III, or IV change to the approved solid waste facility plan. Type III and IV changes require prior ADEQ approval before implementation.
- c. The configuration of the final landfill slopes and elevations shall be consistent with the plans that are part of this approval.

3.7 Safety Issues

- a. Access: COF must limit and control public access, unauthorized vehicular traffic, and illegal dumping of wastes by using natural barriers, artificial barriers, or both, as appropriate, to protect human health and the environment pursuant to 40 CFR § 258.25.
- b. Scavenging: No material may be removed or scavenged from the working face except to remove unauthorized waste materials identified after disposal.
- c. Working face: The size of the working face must be limited to the smallest possible area to provide easy manageability, ensure vehicle and public safety and minimize public health nuisances.
- d. Landfill gas: COF must ensure the concentration of methane gas does not exceed:
 - 1. Twenty-five percent (25%) of the lower explosive limit for gases in facility structures, and
 - 2. The lower explosive limit for gases at the property boundary.

3.8 Landfill Gas Monitoring

- a. COF shall continue its routine methane monitoring program to ensure that the standards of 40 CFR § 258.23(a) are met. Such routine methane monitoring shall be designed to include monitoring at:
 - 1. Facility structures (excluding gas control or recovery systems); and
 - 2. Facility property boundaries.
- b. Routine methane monitoring must be conducted at least quarterly based on the requirements of 40 CFR § 258.23(b)(2) and may be changed by the Director after a reported landfill gas exceedance.
- c. Pursuant to 40 CFR § 258.23, if a methane gas exceedance occurs at facility structures or at the facility property boundaries, COF shall immediately take all necessary steps, as specified in Section 2.3(b), to ensure protection of human health and the environment.
- d. Maintenance of gas monitoring equipment after landfill closure shall be performed as specified in Section 4.3 of this MFPA.

3.9 Recordkeeping

- a. Landfill gas exceedances must be reported in accordance with 40 CFR § 258.23.

- b. Vadose zone exceedances must be reported in accordance with the May 5, 1998, SWFP and subsequent amendments.
- c. COF shall comply with all other recordkeeping requirements pursuant to 40 CFR § 258.29 for at least three (3) years from the date of occurrence. These records shall be available for ADEQ personnel upon request.
- d. COF shall submit a summary of all Type II change modifications to ADEQ annually, by March 31, for the preceding calendar year.
- e. COF shall maintain any Type I change records in the facility file for a minimum of three (3) years from the date of occurrence in accordance with A.R.S. § 49-762.06(A)(1). These records shall be available to ADEQ personnel upon request. Additional operational records such as landfill fire, visual settlement or subsidence, explosions, discharge of hazardous or other wastes not permitted at the landfill facility, flood damage or erosion shall be placed in a file that is retained onsite.
- f. In order to accurately account for the volume of stored paper millings at CLL, COF shall submit an annual report to ADEQ. The first annual report shall be submitted by March 1, 2016, and shall be due on March 1st each year thereafter until COF is released from this requirement by ADEQ. The annual report shall include a discussion of the following:
 - Plan sets showing the change in stockpiled paper millings within Sequence E
 - Any necessary monitoring conducted within the cell
 - Any results from permeability studies and research conducted

3.10 Annual Registration and Disposal Fee Schedules:

- a. COF shall comply with A.R.S. § 49-747 and A.A.C. R18-13-2101 through 2103 and shall pay an annual registration fee for CLL to ADEQ.
- b. COF shall comply with A.R.S. § 49-836 and pay solid waste landfill disposal fees to ADEQ based on the amount of the waste landfilled at CLL.

4.0 CLOSURE AND POST-CLOSURE PROVISIONS

4.1 Final Closure

The following steps shall occur during the landfill closure process:

- a. In accordance with 40 CFR § 258.60(e), COF must notify ADEQ of the intent to close the landfill.
- b. In accordance with 40 CFR § 258.60(g), closure activities for CLL must:
 1. Begin no later than thirty (30) days after the date on which CLL receives its known last receipt of waste or if the landfill has remaining capacity and there is a reasonable likelihood that CLL will receive additional waste, no later than one (1) year after the most recent receipt of waste.
 2. Follow the approved closure plan that is part of the SWFP.

- c. Closure activities must be completed within one hundred eighty (180) days following the beginning of closure as specified in paragraph (b) above.
- d. Following closure construction, COF shall notify ADEQ through a certification document, signed and sealed by an independent Arizona registered professional engineer, that the closure has been completed in accordance with the approved CLL closure plan and this MFPA.
- e. Upon approval of the closure certification report by ADEQ, a letter will be issued notifying COF that CLL is officially closed and released from future annual registration fees and operational financial assurance.

4.2 Final Cover Construction

The landfill final cover shall be consistent with the final cover approved in the SWFP.

- a. The final cover for the unlined landfill footprint shall have a permeability of no greater than 1×10^{-5} centimeters per second (cm/s) and shall consist of (from bottom to top):
 - 1. 18-inch interim final cover
 - 2. 60-mil HDPE or other appropriated flexible membrane liner (FML)
 - 3. 6-inch sand drain or cinders layer
 - 4. 12-inch random fill or cinders layer
 - 5. 6-inch erosion soil or cinders layer
- b. The final cover for the lined expansion area shall consist of (from bottom to top):
 - 1. 18-inch interim final cover
 - 2. Geosynthetic clay layer (GCL)
 - 3. 60-mil HDPE or other appropriate FML
 - 4. 6-inch sand drain or cinders layer
 - 5. 12-inch random fill or cinders layer
 - 6. 6-inch erosion soil or cinders layer
- c. An alternative final cover design may be considered for use, based on cost and material availability, prior to closure of any units of the landfill. Alternatives may include substituting a GCL for the soil infiltration layer, a monolithic cap, or a capillary-break cap. Any changes to the approved final cover design shall be approved prior to implementation of the changes in accordance with A.R.S. § 49-762.06(B).

4.3 Post-Closure Care

Post-closure care shall be provided at CLL for 30 years from the date of final closure acknowledgment by ADEQ under 40 CFR § 258.61(b) and shall consist of:

- a. Maintaining the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of differential settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover.

- b. Maintaining and operating the landfill gas collection and monitoring system in accordance with the requirements of 40 CFR § 258.23 and 40 CFR § 258, Subpart F.
- c. Maintaining and operating the vadose zone monitoring system in accordance with the requirements of 40 CFR § 258.61(a)(3) as amended by Section 3.5 of this MFPA.
- d. Maintaining in good repair all stormwater control structures, internal roads, signs, fences, and any other structures required for monitoring activities and post-closure care of the closed landfill facility.

4.4 Post-Closure Financial Assurance

Yearly financial assurance demonstrations for the 30 years of post-closure care, as required by Section 2.5 of this MFPA, shall continue until COF is notified by ADEQ that it is released from this requirement.

5.0 APPROVAL HISTORY

| | |
|------------|---|
| 10/28/1980 | Open Dump classification |
| 12/31/1984 | Notice of Disposal |
| 10/26/1987 | Public Notice and Hearing |
| 09/22/1987 | Revised Operation Plan |
| 06/01/1995 | Alternative groundwater monitoring compliance date |
| 10/13/1995 | ADC demonstration project |
| 09/17/1996 | Suspension of groundwater monitoring requirements, with subsequent approval of vadose zone monitoring |
| 11/06/1997 | Paper millings pilot project for use as ADC |
| 11/13/1998 | Paper millings for use as ADC |
| 06/15/1999 | Waste Tire Collection Site |
| 10/22/1999 | SWFP Approval No. 03002400.00 |
| 07/02/2002 | SWFP Approval No. 03002400.01, Type III Change to modify vadose zone monitoring program. |
| 06/19/2003 | Type II Change approval for use of remediated trap shooting range soil as ADC |
| 08/28/2003 | SWFP Approval No. 03002400.02 incorporating remediated trap shooting range soil as ADC (for one-time project only) and other minor revisions |
| 02/28/2008 | MFPA No. 03002400.03, Type III Change incorporating the use of crushed glass as ADC and other minor revisions |
| 08/29/2011 | MFPA No. 03002400.04, Type III Change incorporating the use of ground wood waste as ADC, and provisions for paper millings storage in Sequence D |
| 03/27/2012 | Approval to discontinue lysimeter monitoring (PRU12-146), due to last lysimeter (V-1) failing in 2011 |
| 02/26/2015 | MFPA No. 03002400.05, Type III Change allowing the storage of paper millings in Sequence E (approximately 19 acres of northern portions of E2, E3, E4 and E5) |

6.0 REFERENCES

| | |
|------------|---|
| 07/25/1994 | Design, Operations, and Permitting Document for the Cinder Lake Landfill, COF |
| 04/21/1995 | Request to extend groundwater monitoring compliance date, Woodward-Clyde |
| 05/09/1995 | Proposed recycling programs at the Cinder Lake Landfill, COF |
| 08/02/1995 | Vadose Zone Monitoring Wells at the Cinder Lake Landfill, Woodward-Clyde |
| 09/05/1995 | Request for ADC, paper pulp and shredded green waste, COF |

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| 08/26/1996 | Request for suspension of groundwater monitoring requirements, Woodward-Clyde |
| 02/11/1997 | Status meeting summary (12/5/96), CLL permitting and expansion, Woodward-Clyde |
| 06/04/1997 | Data for paper millings and modification request for use as ADC, Woodward-Clyde |
| 08/14/1997 | Request to use paper millings as ADC in a pilot project, COF |
| 10/31/1997 | Letter acknowledging recommendations and giving 10-day notice for initiation of pilot project, COF |
| 05/05/1998 | <i>Solid Waste Facility Plan, Cinder Lake Landfill</i> , Woodward-Clyde |
| 11/03/1998 | Cinder Lake Landfill paper millings ADC pilot project summary, COF |
| 08/06/1999 | Restrictive covenant documents and EPA stormwater permit, COF |
| 07/18/2001 | Request for minor changes to environmental monitoring program, COF |
| 04/04/2002 | Request for Type III Change for vadose zone monitoring changes, COF |
| 06/10/2003 | Request to use remediated range soils as ADC, COF |
| 11/15/2007 | Request for Type III Change to allow crushed glass as ADC, COF |
| Aug. 2011 | <i>Cinder Lake Landfill, Type III Change, Proposal to Integrate Wood Waste as Alternative Daily Cover and Revisions for Storage of Paper Millings</i> , COF |
| Jan. 2015 | <i>Sludge Storage Conceptual Design Report, Cinder Lake Landfill</i> , URS |

End of Master Facility Plan Approval No. 03002400.05



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
PERMITS & PLAN REVIEW UNIT
COMPLIANCE CHECKLIST

Municipal Solid Waste Landfill Master Facility Plan Approval
No. 03002400.05 (LTF # 61895)
Cinder Lake Landfill

This checklist is provided as a tool for permit holders and ADEQ staff to have a consistent understanding of the major compliance expectations under this permit. This checklist is designed to be easy to read and follow. It is intended only to address the permit requirements that ADEQ feels are the most important to protect human health and the environment. This list does not include every permit condition and permit holders should ensure they understand the full requirements of their permit. This list does not supplant or supersede any legal requirement and is not binding on the permit holder or ADEQ staff.

FACILITY NAME: Cinder Lake Landfill

FACILITY ID: LTF # 61895, Place ID 1138

EPA ID NUMBER: N/A

STREET ADDRESS: 6770 E. Landfill Road

CITY/STATE/ZIP: Flagstaff, AZ 86004

TELEPHONE NUMBER: 928-213-2133

MAILING ADDRESS: 211 W. Aspen Avenue, Flagstaff, AZ 86001

Inspection Date:

Date of Last Inspection:



WASTE PROGRAMS DIVISION, INSPECTIONS & COMPLIANCE SECTION
 WASTE INSPECTIONS & COMPLIANCE UNIT
 1110 West Washington Street, Phoenix, Arizona 85007
 (602) 771-4673 (800) 234-5677 ext. 771-4673

Municipal Solid Waste Landfill Inspection Report
Cinder Lake Landfill - MFPA No. 03002400.05

Inspection Date: _____ Inspection ID: _____
 Facility Address: 6770 E. Landfill Road, Flagstaff, AZ 86004 Time In: _____ Time Out: _____
 Owner/Operator: City of Flagstaff Phone: 928-213-2123 Email: _____
 Inspection Type: Routine Follow-up Complaint Multimedia Other _____
 Facility Representative(s): _____ ADEQ Representative (s): _____
 Consent to Inspect granted by: _____ Name and title: _____
 Disposal Area Size: Length: _____ Width: _____ Height: _____

| Yes | No | N/A | P* | 40 CFR §258.29 and 258(G); ARS §49-747 | Facility Records: | Comments: |
|-----|----|-----|----|--|----------------------|-----------|
| | | | | Is a copy of the facility plan kept at or near the facility? | | |
| | | | | Has the landfill submitted: | | |
| | | | | An annual registration and fee? | | |
| | | | | Annual financial assurance cost estimate updates? | | |
| | | | | Are records of training procedures kept at or near the facility? | | |
| | | | | 40 CFR §258(C), MFPA Sections 3.2 and 3.3 | Facility Operations: | |
| | | | | Does the facility display signs containing hours, fees, and types of waste accepted or prohibited? | | |
| | | | | Is public access controlled? | | |
| | | | | Is earthen material placed over the entire working face at the end of the operating day preceding a period of time when the facility will be closed for more than 24 hours, unless allowed otherwise by use of a specific alternative daily cover? | | |
| | | | | Has a minimum of 6" of daily cover or approved daily cover been applied? | | |
| | | | | If no, were any of the following observed in the area of insufficient cover? | | |
| | | | | Disease Vectors | | |
| | | | | Odors | | |
| | | | | Evidence of Scavenging | | |
| | | | | Fire Hazard | | |
| | | | | Wind blown litter | | |
| | | | | Is the facility using any of the approved Alternative Daily Covers? | | |
| | | | | Chopped or shredded vegetative waste | | |
| | | | | Paper millings | | |
| | | | | Shredded tires | | |
| | | | | Crushed glass | | |
| | | | | Ground wood waste | | |
| | | | | If used, is ADC used in accordance with the facility plan? | | |
| | | | | Is a minimum of 1-day stockpile of earthen cover material and required equipment available to ensure a corrective response to any violation of performance of any ADC? | | |
| | | | | Does the facility accept only the following wastes? (ACCEPTABLE LIST) | | |
| | | | | Municipal solid waste as defined in 40 CFR § 258.2 which includes household waste (A.R.S. § 49-701(14)), household hazardous waste (A.R.S. § 49-701(13)) commercial solid waste, non-hazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste | | |

| | | | | |
|--|--|--|--|--|
| | | | | Construction debris and demolition debris as defined in A.R.S. §§ 49-701(5) and 49-701(7), respectively |
| | | | | Inert materials as defined in A.R.S. § 49-701(15) |
| | | | | Animal carcasses, except those that meet the definition of biohazardous medical waste in A.A.C. R18-13-1401(5)(e). All animal carcasses shall be covered immediately |
| | | | | Are all animal carcasses covered immediately? |
| | | | | Vegetative (green) waste as defined in A.R.S. § 49-701(36) |
| | | | | Paper pulp sludge (paper millings from SCA Tissue) |
| | | | | Household biohazardous medical waste when commingled with household wastes |
| | | | | Household appliances; however, prior to disposal CFC-containing appliances must conform to the requirements of 40 CFR 82 Subparts E and F. |
| | | | | Prior to disposal of CFC-containing appliances, do they conform to the requirements of 40 CFR 82 Subparts E and F? |
| | | | | RCRA-empty containers as defined by 40 CFR § 261.7 |
| | | | | Non-friable asbestos containing material |
| | | | | Does the facility reject for disposal the following list of prohibited wastes? (PROHIBITED LIST) |
| | | | | Hazardous waste as defined in 40 CFR Part 261 and A.R.S. § 49-921 except for conditionally exempt small quantity generator hazardous waste as set forth in 40 CFR § 261.5 and A.R.S. § 49-922(E), and household hazardous waste as described in 40 CFR § 261.4(b)(1) |
| | | | | Biohazardous medical waste as defined in A.A.C. R18-13-1401(5) and radioactive medical wastes, except for household generated biohazardous medical waste as set forth in A.A.C. R18-13-1403(A)(4) |
| | | | | Bulk or non-containerized liquid waste as defined in 40 CFR § 258.28(c)(1) |
| | | | | Polychlorinated biphenyl (PCB) waste as defined in 40 CFR § 761, except as allowed under 40 CFR § 761.61 (PCB remediation waste), 40 CFR § 761.62 (PCB bulk product waste) and 40 CFR § 761.63 (PCB household waste) |
| | | | | Used oil as defined in 40 CFR Part 279 |
| | | | | Friable asbestos containing material as defined in 40 CFR § 61.141 |
| | | | | Appliances that may vent or otherwise release into the environment any Class I or Class II refrigerant, including chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) as defined in Section 608 of the Clean Air Act and 40 CFR § 82.154 |
| | | | | Waste from shredding motor vehicles as set forth in the statutory list of special wastes per A.R.S. § 49-852(A)(2) |
| | | | | Petroleum contaminated soil as defined in A.R.S. § 49-851(A)(3) |
| | | | | Explosive materials |
| | | | | Pesticide containers |
| | | | | Septage |
| | | | | Non-dewatered sewage sludge |
| | | | | Tires (however, shredded tires may be used as ADC) |
| | | | | Industrial/commercial process waste, unless a waste acceptance application form is provided by the generator that demonstrates that the waste is non-hazardous |
| | | | | Any other waste prohibited by federal or State of Arizona statute or regulation from disposal at any municipal solid waste landfill |
| | | | | Does the facility maintain a run-on/run-off control system? |
| | | | | Does the facility implement dust control? |
| | | | | Does the landfill participate in recycling? |

| | | | |
|--|--|--|---|
| | | | Does the facility conduct random load inspections to prevent disposal of unpermitted wastes? <i>(Note nature & frequency of inspections)</i> |
| | | | Are landfill employees trained to detect and prevent disposal of unpermitted wastes? |
| | | | Are records kept indicating the results of random load inspections? |
| | | | Was hazardous, PCB, or otherwise unpermitted waste detected during random load inspections? <i>(If yes, answer below)</i> |
| | | | Were actions taken to prevent disposal? |
| | | | Was ADEQ notified that hazardous or PCB waste was discovered? |
| | | | Were contaminated soils accepted by the landfill at any time? |
| | | | If yes, are there analyticals and shipping logs indicating the nature, source, and concentration of contaminants? <i>(If yes, request copies)</i> |
| 40 CFR §258.23 and 40 CFR §258(C), MFLA Sections 3.6 and 3.7 Monitoring Controls: | | | |
| | | | Are soil moisture and methane monitoring analytical records kept at or near the facility? |
| | | | Is soil moisture monitoring conducted quarterly via neutron probe in vadose zone monitoring wells V-1, V-3, V-4 and V-5? |
| | | | Did soil moisture monitoring reveal exceedances of moisture content alert levels (ALs)? <i>(If yes, answer below)</i> |
| | | | Indicate date of moisture content AL exceedance: |
| | | | Did the facility place a notice in the operating record and notify ADEQ? |
| | | | Is methane monitoring conducted quarterly? |
| | | | Were any methane exceedances detected? <i>(If yes, note date and answer below)</i> |
| | | | Did the methane gas exceed 25% of LEL in a facility structure? |
| | | | Did the methane gas exceed the LEL at the property boundary? |
| | | | Did the facility: |
| | | | Immediately take steps to ensure protection of human health? |
| | | | Immediately notify ADEQ? |
| | | | Place records of gas levels detected and a description of steps taken to property human health in the operating record within 7 days? |
| | | | Implement a remediation plan for the exceedances within 60 days of detection or by an alternative ADEQ-approved schedule? |