

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
GENERAL WASTEWATER PERMIT TO DISPOSE OF WASTEWATER RESULTING FROM THE
GROWING OF MEDICAL MARIJUANA
GENERAL PERMIT NO. OKG42T0000**

GENERAL PROVISIONS

As provided by the Oklahoma Pollutant Discharge Elimination System (OPDES) Act, Title 27A O.S. §2-6-201 *et seq.*, Oklahoma Uniform Environmental Permitting Act, 27A O.S. §2-14-101 *et seq.*, and the rules of the Oklahoma Department of Environmental Quality (DEQ); owners or operators of medical marijuana grow facilities, as defined in Part II Section I and defined in OAC 442, will be authorized to dispose of wastewater in surface impoundments, tank systems, and/or through land application in accordance with the limitations, monitoring requirements, and other conditions set forth in Parts I, II, and III hereof. This General Permit (Permit) does not specify the treatment method(s) that the permittee must use. This Permit will regulate only those facilities that wish to dispose of wastewater consisting of excess nutrient water, waste nutrient water, nutrient water runoff, wastewater from cleaning the facility and equipment, and reverse osmosis (RO) reject wastewater, as defined in Part II Section I of this Permit, into an impoundment or underground tank system. This Permit will also allow land application of any combination of the previously defined wastewaters that are considered to be Class III wastewater as defined in Part I.A.1 of this Permit. This Permit will not cover those facilities that discharge or dispose of, by means other than those previously mentioned, wastewater from the medical marijuana grow operations. This Permit will also not cover those facilities that discharge or dispose of wastewater from medical marijuana processing facilities. Discharges of wastewater to waters of the State and potentially contaminated stormwater generated at these sites must obtain coverage under a different OPDES (Oklahoma Pollutant Discharge Elimination System) permit. Discharges to Publicly Owned Treatment Works (POTW) are not covered under this Permit, and may be required to apply for coverage under a different permit. Those facilities wishing to discharge wastewater to waters of the State shall apply for coverage under an individual discharge permit in accordance with requirements to obtain a permit contained in Oklahoma Administrative Code (OAC), Title 252, Chapter 606: OPDES Standards.

Each medical marijuana grow facility will require an Authorization to Dispose of Wastewater (Authorization) obtained from the Executive Director of DEQ. Owners or operators of medical marijuana grow facilities located within the boundaries of the State of Oklahoma must make a written request to DEQ that they be authorized to dispose of wastewater under this Permit and receive an Authorization, prior to commencing such disposal. Owners or operators within the scope of this Permit who fail to make a written request to DEQ are not authorized to dispose of wastewater under this Permit.

Medical marijuana grow facilities that are currently permitted by DEQ through individual wastewater disposal permits or have an authorization under another general permit, may apply for coverage under this Permit no later than 180 days prior to the expiration of their current individual permits/authorizations. Those systems with an individual permit may elect to continue coverage under their individual permits. Existing medical marijuana grow facilities that are not currently permitted by DEQ through individual wastewater disposal permits shall apply for coverage under this Permit within 90 days of the effective date of this Permit. New medical marijuana grow facilities shall apply for and obtain an Authorization prior to commencing any of the activities regulated by this Permit.

The written request for an Authorization shall include the name and legal address of the owner or operator, name of the facility, legal description of the facility location, general location, legal description down to one (1) acre of each land application site used, latitude and longitude (using North America Datum 1983) of each impoundment and/or tank system used, and any other information specified in the application form. Limitations contained in Part I hereof will apply to the land application of wastewater, which has been generated from the medical marijuana grow facility operation.

Use of surface impoundment(s), tank systems, and/or land application to treat and/or dispose of wastewater is authorized by this Permit in accordance with DEQ Rules OAC 252:616.

The permittee shall comply with all provisions of this Permit and any Authorization issued pursuant to it.

Issuance of this Permit in no way or in any respect affects the permittee's civil or criminal responsibility regarding disposal of wastewater, except with respect to the permittee's legal responsibility under 27A O.S. §2-6-201 *et seq.* and DEQ Rules to obtain an Authorization under this Permit.

Issuance of this Permit in no way or in any respect affects the permittee's civil or criminal responsibility regarding disposal of wastewater, except with respect to the permittee's legal responsibility under 27A O.S. §2-6-201 *et seq.* and DEQ Rules to obtain an Authorization under this Permit.

This Permit shall have a five (5) year term. All Authorizations issued under this Permit shall expire on the expiration date of the Permit.

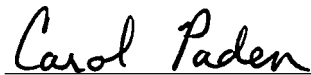
This permit replaces and supersedes the previous permit issued on April 1, 2020.

The issuance date of this permit is March 5, 2025.

This Permit shall become effective on May 1, 2025.

This Permit and any Authorizations issued under it shall expire at midnight, on April 30, 2030.

For Oklahoma Department of Environmental Quality



Carol Paden, P.E., Manager
Industrial Permits Section
Water Quality Division



Shellie R. Chard, Director
Water Quality Division

PART I
EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

SECTION A: LAND APPLICATION LIMITATIONS AND MONITORING REQUIREMENTS

1. Wastewater Classification

In accordance with OAC 252:616-1-2, Class III wastewater is defined as wastewater containing or suspected to contain pollutants which do not pose a substantial risk of harm to humans, aquatic life, wildlife, or the environment because of a relative immobility in groundwater or a general lack of direct toxicity; and which are not likely, if discharged, to degrade the beneficial uses of the receiving water as designated in the Oklahoma Water Quality Standards.

Therefore, any combination of wastewater consisting of RO reject wastewater, wastewater from cleaning the facility and equipment, excess nutrient water, waste nutrient water, and/or nutrient runoff shall be considered Class III if the wastewater has a specific conductance of less than 1500 microsiemens per centimeter ($\mu\text{S}/\text{cm}$), does not contain any known priority pollutants in significant amounts, and does not contain any cleaners or sanitizers. Testing for priority pollutants may be requested by DEQ on a case-by-case basis. Those wastewaters having a specific conductance of 1500 $\mu\text{S}/\text{cm}$ or higher, containing significant amounts of priority pollutants, and/or containing cleaners or sanitizers; shall be considered Class II. Only those wastewaters considered to be Class III are eligible for land application.

2. Land Application of Wastewater

During the period beginning the effective date and lasting through the expiration date, the permittee is authorized to land apply wastewater that has been determined to be Class III wastewater as described in the Authorization. Land application of the Class III wastewater shall be limited by the permittee as specified in Table 1 below.

TABLE 1 - LAND APPLICATION LIMITATIONS

County	Application Rate (gpd/acre)	County	Application Rate (gpd/acre)	County	Application Rate (gpd/acre)	County	Application Rate (gpd/acre)
Adair	1126	Custer	4767	Latimer	300	Ottawa	751
Alfalfa	4687	Delaware	908	Leflore	1043	Pawnee	2789
Atoka	1457	Dewey	5107	Lincoln	2897	Payne	2665
Beaver	5399	Ellis	5454	Logan	3126	Pittsburg	2361
Beckham	5228	Garfield	4229	Love	3387	Pontotoc	2576
Blaine	4683	Garvin	3949	Major	4754	Pottawatomie	2854
Bryan	1968	Grady	4208	Marshall	1588	Pushmataha	924
Caddo	4685	Grant	4091	Mayes	1758	Roger Mills	5030
Canadian	4216	Greer	4896	McClain	4019	Rogers	1821
Carter	3438	Harmon	4925	McCurtain	1162	Seminole	2299
Cherokee	1097	Harper	5318	McIntosh	1313	Sequoyah	1516
Choctaw	1385	Haskell	1190	Murray	2244	Stephens	4228
Cimarron	5613	Hughes	2093	Muskogee	1579	Texas	5700
Cleveland	3087	Jackson	4741	Noble	2961	Tillman	4611
Coal	1412	Jefferson	4317	Nowata	2092	Tulsa	2345

TABLE 1 - LAND APPLICATION LIMITATIONS (continued)

County	Application Rate (gpd/acre)	County	Application Rate (gpd/acre)	County	Application Rate (gpd/acre)	County	Application Rate (gpd/acre)
Comanche	4541	Johnston	1606	Okfuskee	2339	Wagoner	1975
Cotton	4381	Kay	2910	Oklahoma	3240	Washington	2326
Craig	1298	Kingfisher	4489	Okmulgee	1842	Washita	4655
Creek	2299	Kiowa	5006	Osage	2325	Woods	4888
						Woodward	5148

3. Land Application, Wastewater, and Soil Monitoring Requirements

Monitoring requirements contained in Tables 2, 3, & 4 shall become effective in conjunction with the limitations listed in Table 1.

a. Requirements for Monitoring Applied Wastewater

During the period beginning on the effective date and lasting through the expiration date, the permittee shall monitor the wastewater that is applied to the land in accordance with the following table (Table 2) and summarize the results on a Self-Monitoring Report (SMR). The period covered under this annual monitoring requirement is from January 1 through December 31. SMR forms shall be submitted to the Oklahoma Department of Environmental Quality, Water Quality Division, Wastewater Compliance Tracking Section annually on or before the last working day of January following the close of each year.

TABLE 2 - WASTEWATER MONITORING REQUIREMENTS

Parameter	Limitation	Unit	Monitoring Frequency	Sample Type
Total Kjeldahl Nitrogen	Report	mg/L	1/Year	Grab
Ammonia Nitrogen	Report	mg/L	1/Year	Grab
Nitrate Nitrogen	Report	mg/L	1/Year	Grab
Nitrite Nitrogen	Report	mg/L	1/Year	Grab
Phosphorus as P ₂ O ₅	Report	mg/L	1/Year	Grab
Specific Conductance	Report	µS/cm	1/Year	Grab

b. Requirements for Monitoring Quantity of Waste Applied and Soil Testing at Land Application Sites

During the period beginning on the effective date and lasting through the expiration date, the permittee shall monitor the land application sites, in accordance with the following tables (Tables 3 & 4) and summarize the results on a Self-Monitoring Report (SMR). The period covered under this annual monitoring requirement is from January 1 through December 31. SMR forms shall be submitted to the Oklahoma Department of Environmental Quality, Water Quality Division, Wastewater Compliance Tracking Section annually on or before the last working day of January following the close of each year.

TABLE 3 - LAND APPLICATION MONITORING REQUIREMENTS

Parameter	Limitation	Unit	Monitoring Frequency	Sample Type
Total Volume Applied	Report ⁽¹⁾	gallons	1/year	Estimate
Total Number of Days Applied	Report ⁽¹⁾	days	1/year	Measure
Total Number of Acres Used	Report ⁽¹⁾	acres	1/year	Measure
Type of Crop Planted	Report ⁽¹⁾	---	1/year	Report
Total Precipitation	Report ⁽²⁾	in/yr.	1/year	Measure

⁽¹⁾ The permittee shall keep a written record of the dates on which wastewater was applied, the gallons per day of wastewater applied, the number of acres used for each application, and the type of crop that the wastewater was applied to.

⁽²⁾ The permittee shall keep a written record of the amount of precipitation that occurs monthly at the land application site. Precipitation can be monitored at the facility or obtained from local sources.

TABLE 4 - SOIL MONITORING REQUIREMENTS

Parameter	Limitation	Unit	Monitoring Frequency	Sample Type
Nitrogen Concentration	Report	mg/kg	1/year	Composite ^{(2),(3),(4),(5)}
Phosphorus Soil Test Index ⁽¹⁾	Report	---	1/year	Composite ^{(2),(3),(4),(5)}
Sodium Adsorption Ratio	Report	---	1/year	Composite ^{(2),(3),(4),(5)}
Specific Conductance	Report	μS/cm	1/year	Composite ^{(2),(3),(4),(5)}

⁽¹⁾ The Mehlich-3 extraction method should be used to determine the phosphorus test index.

⁽²⁾ Soil composite sample for each land application site shall be obtained by combining 15 to 20 core samples per land application site. The core samples shall be collected and mixed thoroughly and a single sample taken from the composited sample.

⁽³⁾ Fields used for production of cultivated crops may be sampled any time after harvest or before planting.

⁽⁴⁾ Non-cultivated fields should be sampled during the dormant season.

⁽⁵⁾ Do not sample either cultivated or non-cultivated fields immediately after lime, fertilizer, or manure application.

A hardbound log book(s) shall be kept for each land application site. The log book(s) shall have an entry for each land application event. For each land application site there shall be an entry for the date of event, method of spreading, operator name, volume spread, the area in acres over which the volume was spread. The logbooks shall be kept for a period of five (5) years. The logbooks shall be made available to DEQ personnel upon request. If DEQ personnel make the request during an inspection, then the logbooks shall be made available to the inspector within one hour of the request.

The facility shall also keep a record, for each land application site, of any additional fertilizer that is applied. Applied fertilizer shall include starter fertilizer, commercial fertilizer, as well as lime and soil amendments.

NOTE: See Parts II and III for Additional Requirements.

Samples taken in compliance with the specified monitoring requirements shall be taken at locations specified in the individual authorization.

SECTION B: SURFACE IMPOUNDMENTS

This Permit for treatment and/or disposal of wastewater through land application at marijuana grow facilities does not require the use of surface impoundments. However, if impoundments are used, then they are authorized in this Permit. Impoundments are subject to additional State requirements as specified below and in the Authorization, in accordance with OAC 252:616.

1. Wastewater Classification [OAC 252:616-1-2]

In accordance with OAC 252:616-1-2, Class III wastewater is defined as wastewater containing or suspected to contain pollutants which do not pose a substantial risk of harm to humans, aquatic life, wildlife, or the

environment because of a relative immobility in groundwater or a general lack of direct toxicity; and which are not likely, if discharged, to degrade the beneficial uses of the receiving water as designated in the Oklahoma Water Quality Standards.

Therefore, any combination of wastewater consisting of RO reject wastewater, wastewater from cleaning the facility and equipment, excess nutrient water, waste nutrient water, and/or nutrient runoff shall be considered Class III if the wastewater has a specific conductance of less than 1500 microsiemens per centimeter ($\mu\text{S}/\text{cm}$), does not contain any known priority pollutants in significant amounts, and does not contain any cleaners or sanitizers. Testing for priority pollutants may be requested by DEQ on a case-by-case basis. Those wastewaters having a specific conductance of 1500 $\mu\text{S}/\text{cm}$ or higher, containing significant amounts of priority pollutants, and/or containing cleaners or sanitizers; shall be considered Class II.

2. Engineer Required [OAC 252:616-1-3 and OAC 252:616-3-4]

In accordance with OAC 252:616-1-3, impoundment design shall be prepared and certified by a professional engineer (P.E.) registered to practice in the State of Oklahoma. In accordance with OAC 252:616-3-4(d), facilities that wish to dispose of Class III wastewater into a single total retention surface impoundment may elect to use the design shown in Appendix D of OAC 252:616 in lieu of hiring a P.E., provided that the facilities meet the following requirements:

- a. The bottom of the impoundment shall be a minimum of fifteen (15) feet from groundwater.
- b. The proposed impoundment site must have a one (1) foot compacted soil liner for the bottom and sides of the impoundment that has a permeability of 5.4×10^{-7} cm/sec or less.
- c. Facilities shall submit an impoundment design plan that includes all required information specified in Appendix D of OAC 252:616 to the DEQ for review and approval.
- d. After receiving approval from DEQ to construct the impoundment, the impoundment should be built exactly as indicated on the approved plan.

3. Construction and Maintenance Requirements [OAC 252:616-7 & OAC 252:616-5-2]

All impoundments shall be constructed and maintained in accordance with OAC 252:616-7.

In accordance with OAC 252:616-5-2, for surface impoundments that contain Class II wastewater, there must be a written Maintenance and Operation Plan (MOP). A MOP may be required for other wastewater classifications based on site-specific information. The MOP must be followed, updated annually, if necessary, kept on-site and be available to the DEQ. The MOP must contain the following items:

- a. **Maintenance.** The MOP must discuss maintenance procedures including methods to protect impoundments and liner integrity, procedures for solids removal as well as other procedures (such as repair or control of soil erosion, removal of deep-root vegetation, and prevention of liner desiccation).
- b. **Operation.** The MOP must discuss operation procedures used to protect surface impoundment and liner integrity, as well as other procedures (e.g., influent and effluent flow, sludge removal, sludge storage, changes in waste composition, and freeboard control). Describe procedures to notify the DEQ at the time of a spill or bypass.
- c. **Monitoring.** The MOP must discuss the scope and frequency of monitoring activities (such as parameters sampled, sampling frequency, sampling methods, and reporting schedule).

- d. Personnel.** The MOP must include the name and phone number of all personnel responsible for maintenance, operation and monitoring activities.

4. Flood Plain Requirement [OAC 252:616-5-1(a)]

In accordance with OAC 252:616-5-1(a), impoundments shall not be located in floodways. If located in a flood plain, impoundments shall be constructed such that the crest elevation of dikes is at least one foot above the 100-year flood elevation.

5. Liner Requirements [OAC 252:616-7]

The minimum liner requirement for Class III wastewater is an excavated soil liner. Excavated soil liners can be utilized for surface impoundments where the minimum distance between the bottom of the impoundment and the maximum groundwater table height is at least 15 feet and where the liner permeability is 5.4×10^{-7} cm/sec or less. Other liner systems outlined in OAC 252:616-7-3 through OAC 252:616-7-7 are also appropriate for Class III wastewater.

The minimum liner requirement for Class II wastewater is a clay liner, of native or imported clay soils compacted in lifts in accordance with OAC 252:616-7-3. Other liner systems outlined in OAC 252:616-7-4 through OAC 252:616-7-7 are also appropriate for Class II wastewater.

For all surface impoundments located in areas where the minimum distance between the bottom of the impoundment and the maximum groundwater table height is less than 15 feet, liner materials and construction shall be in compliance with requirements of OAC 252:616-7-1(9) and OAC 252:616-7-2(c) though OAC 252:616-7-7.

6. Freeboard Requirements (OAC 252:616-7-1(7))

A minimum freeboard of one (1) foot shall be maintained on all flow-through surface impoundments and all surface impoundments that are equipped to transfer wastewater to other permitted surface impoundments or a recycle/reuse system.

A minimum freeboard of three (3) feet shall be maintained on all total retention surface impoundments that are not equipped to transfer wastewater to other permitted surface impoundments or a recycle/reuse system.

7. Depth to Groundwater Requirement [OAC 252:616-7-1(4)]

The minimum separation distance from the bottom of any surface impoundment to ground water shall be fifteen (15) feet in accordance with OAC 252:616-7-1(4). In accordance with OAC 252:616-7-1(4)(B), DEQ may waive the fifteen (15) foot separation requirement based on the use of enhanced liners that will protect waters of the State.

8. Other Specific Requirements

- a.** Each Authorization will include the specific requirements for surface impoundment based on information submitted by applicant, permit inspection, and DEQ rules.

- b. At such time when surface impoundments are to be permanently taken out of service or at such time as the contents of surface impoundments pose a risk to the environment or waters of the State, the owner or operator of the facility shall follow all closure requirements contained in OAC 252:616-13.
- c. In all other respects, surface impoundments shall be subject to standard conditions for surface impoundments contained in OAC 252:616, Subchapters 5, 7, and 13, including but not limited to requirements for construction, operation, maintenance, monitoring and closure.

SECTION C: SUBSURFACE TANK SYSTEMS

The use of underground tank systems to manage wastewater for treatment and/or disposal via land application is authorized by this Permit, subject to additional State requirements as specified below and in the Authorization, in accordance with OAC 252:616-9.

1. Authorized Use of Tank Systems [OAC 252:616-9-1]

The use of tank systems for all wastewater classifications is authorized as follows:

Only Tank systems without lateral lines can be used for the treatment of Class I, II, III, and V wastewater.

2. Tank System Materials [OAC 252:616-9-2]

Tank systems may be constructed of concrete, metal, plastic, or fiberglass in accordance with OAC 252:616-9-2.

3. Tank System Requirements [OAC 252:616-9-3]

Tank systems must be constructed in accordance with OAC 252:616-9-3.

4. Maintenance and Operation [OAC 252:616-5-2]

In accordance with OAC 252:616-5-2, tanks that contain Class II wastewater, there must be a written Maintenance and Operation Plan (MOP). A MOP may be required for other wastewater classifications based on site-specific information. The MOP must be followed, updated annually, if necessary, kept on-site and be available to the DEQ. The MOP must contain the following items:

- a. **Maintenance.** The MOP must discuss maintenance procedures including methods to protect tanks and liner integrity, procedures for solids removal as well as other procedures (such as tank repair or control of soil erosion, and prevention of liner desiccation).
- b. **Operation.** The MOP must discuss operation procedures used to protect tank and liner integrity, as well as other procedures (e.g., influent and effluent flow, sludge removal, sludge storage, changes in waste composition, and freeboard control). Describe procedures to notify DEQ at the time of a spill or bypass.
- c. **Monitoring.** The MOP must discuss the scope and frequency of monitoring activities (such as parameters sampled, sampling frequency, sampling methods, and reporting schedule).
- d. **Personnel.** The MOP must include the name and phone number of all personnel responsible for maintenance, operation and monitoring activities.

SECTION D: SCHEDULE OF COMPLIANCE

None.

SECTION E: REPORTING OF MONITORING RESULTS

Monitoring results shall be reported in accordance with the provisions of Part III.B.4 of the Permit. Monitoring results obtained during the previous quarter shall be summarized and reported on the Self-Monitoring Report (SMR) forms due to the Oklahoma Department of Environmental Quality, Water Quality Division, Wastewater Compliance Tracking Section postmarked or received no later than the last working day of the following month after the end of the reporting period as described above. Monitoring results obtained during the previous year shall be summarized and reported on the Self-Monitoring Report (SMR) forms due to the Oklahoma Department of Environmental Quality, Water Quality Division, Wastewater Compliance Tracking Section postmarked or received no later than the last working day of the following month after the end of the reporting period as described above. If no land application occurs during the reporting period, SMR forms stating "No Land Application" shall be submitted according to the above schedule.

PART II
OTHER PERMIT REQUIREMENTS

A. REGULATORY NOTICE

The permittee is hereby given notice that this Permit is in all respects subject to compliance with any actions under any-and-all applicable and relevant terms, conditions, provisions and requirements and any-and-all amendments to the laws of the State of Oklahoma, the rules of the Oklahoma Department of Environmental Quality, and Oklahoma's Water Quality Standards. The absence of any express reference within this Permit of any particular statutory requirement, rule(s), regulation(s), or standard(s) shall in no respect be deemed or construed to exempt or preclude the application of such requirement, rule(s), regulation(s), or standard(s) to this permit or the permittee. By the Director's approval, grant and issuance of this Permit, the permittee acknowledges receipt of true, correct and current copies of Oklahoma's Water Quality Standards, and the rules of the Oklahoma Department of Environmental Quality, provided, however, that the permittee further acknowledges that any and all amendments thereto shall become part of this permit.

B. REOPENER CLAUSE

This Permit may be reopened for modification, revocation, and/or reissuance to require additional monitoring and/or limitations, or when required as technology advances. Modification or revocation and reissuance of the Permit shall follow regulations listed at 40 C.F.R. 124.5.

C. LABORATORY ACCREDITATION

All laboratory analyses for the parameters specified in this Permit must be performed by a laboratory accredited by the Oklahoma Department of Environmental Quality for those parameters. Soil tests may be performed by a state accredited laboratory or by the Oklahoma State University Extension Service's Soil Laboratory.

D. ANALYTICAL REQUIREMENTS

Unless otherwise specified in this Permit, wastewater monitoring shall be conducted according to analytical, apparatus and materials, sample collection, preservation, handling, etc., procedures listed in 40 C.F.R. Part 136 in effect on the effective date of this permit. Appendices A, B, and C to 40 C.F.R. Part 136 are specifically referenced as part of this requirement. Amendments to 40 C.F.R. Part 136 promulgated and incorporated by reference into OAC 252:606 after the effective date of this permit shall supersede these requirements as applicable.

E. MINIMUM QUANTIFICATION LEVEL (MQL)

If any individual wastewater analytical test result taken for compliance with this Permit is less than the corresponding minimum quantification level listed in OAC 252:606 Appendix H, a value of zero (0) may be used for that individual result for the SMR calculations and reporting requirements.

F. INDIVIDUAL PERMITS

1. Any permittee authorized by this Permit may request to be excluded from the coverage of this General Permit by applying for an individual permit. The permittee shall submit the appropriate OPDES application forms together with the reasons supporting the request to the Water Quality Division.
2. When an individual General OPDES permit is issued to a permittee otherwise subject to this General Permit, the applicability of this Permit to that owner or permittee is automatically terminated on the effective date of the individual permit.

3. A source excluded from coverage under this General Permit solely because it already has an individual permit may request that its individual permit be revoked and that it be covered by this General Permit. Upon revocation of the individual permit, this general Permit shall apply to the source.

G. LAND APPLICATION

1. Wastewater that is to be land applied must be classified as Class III wastewater in accordance with OAC 252:616-1-2.
2. Wastewater that is to be land applied shall be visually inspected prior to land application. The wastewater shall be free of any visible sheen of oil or globules of oil or grease.
3. There shall be no land application of wastewater in areas where the depth to the maximum seasonal groundwater is less than two (2) feet in accordance with OAC 252:616-5-1(b)(5).
4. A land application site shall have minimal slope or be contoured to prevent ponding and soil erosion. No application shall occur on land having a slope exceeding five percent (5%), unless provisions for erosion and runoff control are implemented. Land having a slope greater than ten percent (10%) may be utilized for land application only with Department approval.
5. The hydraulic loading at land application sites shall be maintained to prevent surface runoff of applied wastewater to waters of state and to prevent persistent flooding (persistent flooding is defined as soil, which remains saturated for more than 24 hours).
6. The land application of wastewater at land application sites shall not occur during periods of precipitation, when the soil is frozen, or while the soil is saturated. The wastewater may be stored in the surface impoundments, underground storage tanks, and/or above ground tanks until the soil is capable of receiving wastewater without persistent flooding or surface runoff.
7. Stormwater runoff shall be diverted around land application sites, and all sites shall maintain at least a ten (10) foot wide setback on the boundaries of the site.
8. Land application of wastewater shall not cause permanent vegetative damage or otherwise prevent growth after cessation of land application.
9. The land application site shall be managed to prevent site conditions that have the potential to impact aesthetics, including but not limited to, odors, waste piles, and sludges.
10. The land application of the wastewater shall not be applied within 100 feet of a stream or body of water and shall not be applied within two feet of the highest seasonal water level on a site.
11. The land application of the wastewater shall not be applied within 300 feet of a well used for a potable water supply or a public water supply surface water intake.
12. The land application of the wastewater shall not occur within a 100-foot buffer zone of any buildings near or adjacent to the land application site.
13. In all other respects, land application shall be accomplished in accordance with OAC 252:616-11.

H. OTHER DISPOSAL METHODS

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewater shall be disposed of in a State-approved industrial waste disposal site or to a company for recycling.

If any such industrial wastes are removed from the facility, then the permittee shall keep accurate records that include the following information:

- a. Name and address of company hauling waste.
- b. The type and amount of waste hauled.
- c. The final disposal site of waste hauled.

Upon request, the above records shall be made available to the staff of DEQ for inspection, review, and copying.

I. DEFINITIONS

A “*Medical Marijuana Grow Facility*” is defined as, the facility in which a state licensed medical marijuana commercial grower cultivates, prepares, and packages medical marijuana.

A “*Hydroponic System*” includes all types of hydroponic systems including aeroponic systems. A system means any combination of tanks including associated pipes, lines, fixtures, and other related equipment, used in the storing and use of hydroponic water.

A “*tank*” is a stationary device designed to contain an accumulation of fluids, which is constructed of non-earthen materials (for example, concrete, steel, plastic) that provide structural support.

A “*Surface Impoundment*” is a native soil or lined basin either below or above ground level which is designed, maintained and/or operated to store, recycle, treat and/or dispose of industrial wastewater or stormwater, and shall include but is not limited to lagoons, excavations, basins, diked areas, and pits.

“*Land Application*” means the controlled application of treated industrial wastewater or sludge onto the land surface for beneficial use.

“*Nutrient Water*” is defined as, the nutrient solution used in the growing of plants with or without an inert medium (such as soil) to provide mechanical support.

“*Waste Nutrient Water*” is defined as, nutrient water that has been delivered and used by the plant roots.

“*Nutrient Water Runoff*” is defined as, the surface runoff of nutrient water due to over irrigation, overspray, or spills.

“*RO Reject Wastewater*” is defined as, the concentrated waste stream that is produced during the reverse osmosis process. This waste stream is primarily made up of larger molecule pollutants and water that were filtered during the process.

“*Wastewater from Cleaning the Facility and Equipment*” is defined as the wastewater generated from the cleaning of various indoor facility rooms, equipment, and tanks.

“*Wastewater*” is defined for the purposes of this document as any combination of RO reject wastewater, wastewater from cleaning the facility and equipment, excess nutrient water, waste nutrient water, and/or nutrient runoff.

“*Process*” means to distill, extract, manufacture, prepare, or otherwise produce a medical marijuana product.

“*Processor*” or “*Commercial Processor*” means an individual or entity that has been issued a medical marijuana commercial license by the Oklahoma Medical Marijuana Authority (OMMA), which allows the processor to do the following:

- Purchase medical marijuana or medical marijuana products from a grower or processor.

- Process, package, sell, transfer, transport or contract with a commercial transporter to transport medical marijuana or medical marijuana products that they processed to a licensed dispensary, processor, or testing laboratory in accordance with Oklahoma law and OAC 442.
- Process medical marijuana received from a licensed patient into a medical marijuana concentrate, for a fee.

FACT SHEET

FACT SHEET FOR THE DRAFT GENERAL WASTEWATER DISPOSAL PERMIT TO DISPOSE OF WASTEWATER RESULTING FROM THE GROWING OF MEDICAL MARIJUANA

DEQ Permit No.: OKG42T0000

Applicant: Owners or Operators of Medical Marijuana Grow Facilities
in the State of Oklahoma

Prepared and Issued by: Industrial Permits Section
Oklahoma Department of Environmental Quality
Water Quality Division
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Permit Action: Generation of a new general permit to allow disposal of
wastewater from the growing of medical marijuana.

I. SCOPE OF PERMIT

Coverage under this General Permit OKG42 (the Permit) is available for the disposal of waste streams consisting of waste nutrient water, excess nutrient water, nutrient water runoff, wastewater from cleaning the facility and equipment, and reverse osmosis (RO) reject water resulting from the indoor growing of medical marijuana as defined in Part II of this fact sheet. This Permit allows the disposal of said waste streams in surface impoundments and underground tank systems. This Permit will also allow the land application of the wastewater generated that meets Class III wastewater standards. Facilities that operate medical marijuana grow operations will be regulated by this Permit.

This Permit will only cover those facilities that wish to dispose of wastewater consisting of excess nutrient water, waste nutrient water, nutrient water runoff, wastewater from cleaning the facility and equipment, and RO reject wastewater into an impoundment or underground tank system. This Permit will also cover the land application of any combination of those wastewaters listed above that is considered to be Class III wastewater. This Permit will not cover those facilities that discharge wastewater from the medical marijuana grow operations to waters of the State or into municipal wastewater collection systems. This Permit will also not cover discharge or disposal of wastewater from medical marijuana processing facilities to waters of the State or into municipal wastewater collection systems. Discharges to waters of the State or potentially contaminated stormwater generated at these sites must obtain coverage under a different OPDES (Oklahoma Pollutant Discharge Elimination System) permit.

Medical marijuana grow facilities currently permitted by the Oklahoma Department of Environmental Quality (DEQ) through individual wastewater disposal permits or general permit authorizations may apply for coverage under this Permit no later than 180 days prior to the expiration of their current individual permits. Those systems with an

individual permit may elect to continue coverage under their individual permits. New medical marijuana grow facilities shall apply for and obtain an Authorization prior to commencing any of the activities regulated by this Permit. Existing medical marijuana grow facilities that have already commenced in the activities regulated by this Permit will have 180 days to submit an application for coverage under this Permit.

Land application of wastewater regulated by this Permit are generated from the disposal of RO reject wastewater, excess and waste nutrient water, nutrient water runoff, and wastewater from cleaning the facility and equipment connected with the growing of medical marijuana. Surface impoundments and tank systems regulated by this Permit are any surface impoundments or tank systems at any marijuana grow facility that contain wastewater generated by the facility. This Permit does not specify the disposal/treatment method(s) that the permittee must use. If surface impoundments, tank systems, and/or land applications are used for wastewater treatment and/or disposal, the surface impoundments, tank systems, and land applications shall be regulated by this Permit in accordance with DEQ Rules OAC 252:616.

This Permit shall have a five (5) year term. All Authorizations issued under the General Permit shall expire on the expiration date of the General Permit.

II. APPLICANT ACTIVITY

Wastewater regulated by this Permit are wastewaters resulting from disposal of RO reject wastewater, excess or waste nutrient water, nutrient water runoff, and wastewater from cleaning the facility and equipment. This Permit regulates the disposal of such wastewaters, deemed to be Class III, via land application; and/or the disposal of such wastewaters in surface impoundments and underground tank systems. This Permit also regulates the disposal of such wastewaters deemed to be Class II wastewater, and specifies the disposal of such wastewaters in surface impoundments and underground tank systems. Definitions relevant to this Permit are listed below. Other Definitions can be found in the current Oklahoma Medical Marijuana Authority (OMMA) rules under OAC 442.

A “*Medical Marijuana Grow Facility*” is defined as, the facility in which a state licensed medical marijuana commercial grower cultivates, prepares, and packages medical marijuana.

A “*Hydroponic System*” includes all types of hydroponic systems including aeroponic systems. A system means any combination of tanks including associated pipes, lines, fixtures, and other related equipment, used in the storing and use of hydroponic water.

A “*tank*” is a stationary device designed to contain an accumulation of fluids, which is constructed of non-earthen materials (for example, concrete, steel, plastic) that provide structural support.

A “*Surface Impoundment*” is a native soil or lined basin either below or above ground level which is designed, maintained, and/or operated to store, recycle, treat, and/or dispose of industrial wastewater or stormwater, and this shall include but is not limited to lagoons, excavations, basins, diked areas, and pits.

“*Land Application*” means the controlled application of treated industrial wastewater or sludge onto the land surface for beneficial use.

“*Nutrient Water*” is defined as, the nutrient solution used in the growing of plants with or without an inert medium (such as soil) to provide mechanical support.

“*Waste Nutrient Water*” is defined as, nutrient water that has been delivered and used by the plant roots.

“*Nutrient Water Runoff*” is defined as, the surface runoff of nutrient water due to over irrigation, overspray, or spills.

“RO Reject Wastewater” is defined as, the concentrated waste stream that is produced during the reverse osmosis process. This waste stream is primarily made up of larger molecule pollutants and water that were filtered during the process.

“Wastewater from Cleaning the Facility and Equipment” is defined as the wastewater generated from the cleaning of various indoor facility rooms, equipment, and tanks.

“Wastewater” is defined for the purposes of this document as any combination of RO reject wastewater, excess nutrient water, waste nutrient water, nutrient runoff, and/or wastewater from cleaning the facility and equipment.

“Process” means to distill, extract, manufacture, prepare, or otherwise produce a medical marijuana product.

“Processor” or *“Commercial Processor”* means an individual or entity that has been issued a medical marijuana commercial license by the Oklahoma Medical Marijuana Authority (OMMA), which allows the processor to do the following:

- Purchase medical marijuana or medical marijuana products from a grower or processor.
- Process, package, sell, transfer, transport or contract with a commercial transporter to transport medical marijuana or medical marijuana products that they processed to a licensed dispensary, processor, or testing laboratory in accordance with Oklahoma law and OAC 442.
- Process medical marijuana received from a licensed patient/grower into a medical marijuana concentrate.

III. DRAFT PERMIT RATIONALE

Permit conditions have been developed in accordance with the permitting procedures contained in State Rules for Discharges and Industrial Wastewater Systems, OAC 252:606 and 252:616, using information contained in the application, water quality standards, water quality criteria, waste/liner compatibility, waste loading guidance and best professional judgment (BPJ), as appropriate, to prevent, control or abate pollution of any waters of the State and the environment.

A. SURFACE IMPOUNDMENTS

The use of surface impoundments for treatment and/or disposal of wastewater through land application at marijuana grow facilities is not required by this Permit. However, where impoundments are used, they are authorized in this Permit. Impoundments are subject to additional State requirements as specified below and in the Authorization, in accordance with OAC 252:616.

1. Wastewater Classification [OAC 252:616-1-2]

In accordance with OAC 252:616-1-2, Class III wastewater is defined as wastewater containing or suspected to contain pollutants which do not pose a substantial risk of harm to humans, aquatic life, wildlife, or the environment because of a relative immobility in groundwater or a general lack of direct toxicity; and which are not likely, if discharged, to degrade the beneficial uses of the receiving water as designated in the Oklahoma Water Quality Standards.

Therefore, any combination of wastewater consisting of RO reject wastewater, excess nutrient water, waste nutrient water, nutrient runoff, and/or wastewater from cleaning the facility and equipment shall be considered Class III if the wastewater has a specific conductance of less than 1500 microsiemens per centimeter ($\mu\text{S}/\text{cm}$), does not contain any known priority pollutants in significant amounts, and does not contain any cleaners or sanitizers. Testing for priority pollutants may be requested by DEQ on a case-by-case basis. Those

wastewaters having a specific conductance of 1500 $\mu\text{S}/\text{cm}$ or higher, containing significant amounts of priority pollutants, and/or containing cleaners or sanitizers; shall be considered Class II.

2. Engineer Required [OAC 252:616-1-3 and OAC 252:616-3-4]

In accordance with OAC 252:616-1-3, impoundment design shall be prepared and certified by a professional engineer (P.E.) registered to practice in the State of Oklahoma. In accordance with OAC 252:616-3-4(d), facilities that wish to dispose of Class III wastewater into a single total retention surface impoundment may elect to use the design shown in Appendix D of OAC 252:616 in lieu of hiring a P.E., provided that the facilities meet the following requirements:

- a. The bottom of the impoundment shall be a minimum of fifteen (15) feet from groundwater.
- b. The proposed impoundment site must have a one (1) foot compacted soil liner for the bottom and sides of the impoundment that has a permeability of 5.4×10^{-7} cm/sec or less.
- c. Facilities shall submit an impoundment design plan that includes all required information specified in Appendix D of OAC 252:616 to the DEQ for review and approval.
- d. After receiving approval from DEQ to construct the impoundment, the impoundment should be built exactly as indicated on the approved plan.

3. Construction and Maintenance Requirements [OAC 252:616-7 & OAC 252:616-5-2]

All impoundments shall be constructed and maintained in accordance with OAC 252:616-7.

In accordance with OAC 252:616-5-2, for surface impoundments that contain Class II wastewater, there must be a written Maintenance and Operation Plan (MOP). A MOP may be required for other wastewater classifications based on site specific information. The MOP must be followed, updated annually, if necessary, kept on-site and be available to the DEQ. The MOP must contain the following items:

- a. **Maintenance.** The MOP must discuss maintenance procedures including methods to protect impoundments and liner integrity, procedures for solids removal as well as other procedures (such as repair or control of soil erosion, removal of deep-root vegetation, and prevention of liner desiccation).
- b. **Operation.** The MOP must discuss operation procedures used to protect surface impoundment and liner integrity, as well as other procedures (e.g., influent and effluent flow, sludge removal, sludge storage, changes in waste composition, and freeboard control). Describe procedures to notify DEQ at the time of a spill or bypass.
- c. **Monitoring.** The MOP must discuss the scope and frequency of monitoring activities (such as parameters sampled, sampling frequency, sampling methods, and reporting schedule).
- d. **Personnel.** The MOP must include the name and phone number of all personnel responsible for maintenance, operation and monitoring activities.

4. Flood Plain Requirement [OAC 252:616-5-1(a)]

In accordance with OAC 252:616-5-1(a), impoundments shall not be located in floodways. If located in a flood plain, impoundments shall be constructed such that the crest elevation of dikes is at least one foot above the 100-year flood elevation.

5. Liner Requirements [OAC 252:616-7]

The minimum liner requirement for Class III wastewater is an excavated soil liner. Excavated soil liners can be utilized for surface impoundments where the minimum distance between the bottom of the impoundment and the maximum groundwater table height is at least 15 feet and where the liner permeability is 5.4×10^{-7} cm/sec or less. Other liner systems outlined in OAC 252:616-7-3 through OAC 252:616-7-7 are also appropriate for Class III wastewater.

The minimum liner requirement for Class II wastewater is a clay liner, of native or imported clay soils compacted in lifts in accordance with OAC 252:616-7-3. Other liner systems outlined in OAC 252:616-7-4 through OAC 252:616-7-7 are also appropriate for Class II wastewater.

For all surface impoundments located in areas where the minimum distance between the bottom of the impoundment and the maximum groundwater table height is less than 15 feet, liner materials and construction shall be in compliance with requirements of OAC 252:616-7-1(9) and OAC 252:616-7-2(c) though OAC 252:616-7-7.

6. Freeboard Requirements (OAC 252:616-7-1(7))

A minimum freeboard of one (1) foot shall be maintained on all flow-through surface impoundments and all surface impoundments that are equipped to transfer wastewater to other permitted surface impoundments or a recycle/reuse system.

A minimum freeboard of three (3) feet shall be maintained on all total retention surface impoundments that are not equipped to transfer wastewater to other permitted surface impoundments or a recycle/reuse system.

7. Depth to Groundwater Requirement [OAC 252:616-7-1(4)]

The minimum separation distance from the bottom of any surface impoundment to ground water shall be fifteen (15) feet in accordance with OAC 252:616-7-1(4). In accordance with OAC 252:616-7-1(4)(B), DEQ may waive the fifteen (15) foot separation requirement based on the use of enhanced liners that will protect waters of the State.

8. Other Specific Requirements

- a. Each Authorization will include the specific requirements for surface impoundments based on information submitted by applicant, permit inspection, and DEQ rules.
- b. At such time as surface impoundments are to be permanently taken out of service or at such time as the contents of surface impoundments pose a risk to the environment or waters of the State, the owner or operator of the facility shall follow all closure requirements contained in OAC 252:616-13.
- c. In all other respects, surface impoundments shall be subject to standard conditions for surface impoundments contained in OAC 252:616, Subchapters 5, 7, and 13, including but not limited to requirements for construction, operation, maintenance, monitoring and closure.

B. SUBSURFACE TANKS SYSTEMS

The use of underground tank systems to manage wastewater for treatment and/or disposal via land application is authorized by this permit, subject to additional State requirements as specified below and in the Authorization, in accordance with OAC 252:616-9.

1. Authorized Use of Tank Systems [OAC 252:616-9-1]

The use of tank systems for all wastewater classifications is authorized as follows:

Only Tank systems without lateral lines can be used for the treatment of Class I, II, III, and V wastewater.

2. Tank System Materials [OAC 252:616-9-2]

Tank systems may be constructed of concrete, metal, plastic, or fiberglass in accordance with OAC 252:616-9-2

3. Tank System Requirements [OAC 252:616-9-3]

Tank systems must be constructed in accordance with OAC 252:616-9-3.

4. Maintenance and Operation [OAC 252:616-5-2]

In accordance with OAC 252:616-5-2, tanks that contain Class II wastewater, there must be a written Maintenance and Operation Plan (MOP). A MOP may be required for other wastewater classifications based on site specific information. The MOP must be followed, updated annually, if necessary, kept on-site and be available to the DEQ. The MOP must contain the following items:

- a. **Maintenance.** The MOP must discuss maintenance procedures including methods to protect tanks and liner integrity, procedures for solids removal as well as other procedures (such as tank repair or control of soil erosion, and prevention of liner desiccation).
- b. **Operation.** The MOP must discuss operation procedures used to protect tank and liner integrity, as well as other procedures (e.g., influent and effluent flow, sludge removal, sludge storage, changes in waste composition, and freeboard control). Describe procedures to notify DEQ at the time of a spill or bypass.
- c. **Monitoring.** The MOP must discuss the scope and frequency of monitoring activities (such as parameters sampled, sampling frequency, sampling methods, and reporting schedule).
- d. **Personnel.** The MOP must include the name and phone number of all personnel responsible for maintenance, operation and monitoring activities.

C. LAND APPLICATION AND BENEFICIAL REUSE OF WASTEWATER

Land application is defined as the controlled application of wastewater onto the land surface to achieve a specific level of treatment through natural physical, chemical, and biological processes within the plant soil-water matrix. Many wastewaters may have what is known as beneficial use, which in the context of this Permit means the use of wastewater through land application for the purpose of soil conditioning and/or crop vegetation fertilization; and it must be done in a manner which does not pollute or tend to pollute waters of the State of Oklahoma, the environment, or pose a risk to human health.

Land application of wastewaters connected with the growing of medical marijuana which includes excess nutrient water, waste nutrient water, nutrient water runoff, RO reject wastewater, and/or wastewater from cleaning the facility and equipment that have a Class III determination, is authorized by this permit, and is subject to requirements as specified in the authorization, in accordance with OAC 252:616-11.

1. Wastewater and Soil Analytical Data

a. Site Specific Wastewater Classification Parameters

In accordance with OAC 252:616-1-2, Class III wastewater is defined as wastewater containing or suspected to contain pollutants which do not pose a substantial risk of harm to humans, aquatic life, wildlife, or the environment because of a relative immobility in groundwater or a general lack of direct

toxicity; and which are not likely, if discharged, to degrade the beneficial uses of the receiving water as designated in the Oklahoma Water Quality Standards.

Therefore, any combination of wastewater consisting of RO reject wastewater, excess nutrient water, waste nutrient water, nutrient runoff, and/or wastewater from cleaning the facility and equipment shall be considered Class III if the wastewater has a specific conductance of less than 1500 microsiemens per centimeter ($\mu\text{S}/\text{cm}$), does not contain any known priority pollutants in significant amounts, and does not contain any cleaners or sanitizers. Testing for priority pollutants may be requested by DEQ on a case-by-case basis. Those wastewaters having a specific conductance of 1500 $\mu\text{S}/\text{cm}$ or higher, containing significant amounts of priority pollutants, and/or containing cleaners or sanitizers; shall be considered Class II. Only those wastewaters considered to be Class III are eligible for land application.

b. Class III Wastewaters and Soil Parameters

The following table summarizes the analytical data that must be submitted by the facility in the application for the Class III wastewaters to be land applied, and the soil at each land application site. Class III wastewaters permitted for land application by this Permit are any combination of excess nutrient water, waste nutrient water, nutrient water runoff, RO reject wastewater, and/or wastewater from cleaning the facility and equipment that have been given a Class III determination.

Wastewater and Soil Analytical Data Required

Wastewater Parameters	Soil & Land Parameters
Total Kjeldahl Nitrogen (TKN) (mg/L)	Nitrogen (soil test index, mg/kg, or lbs/acre)
Ammonia Nitrogen (mg/L)	Phosphorus (soil test index, mg/kg, or lbs/acre)
Nitrate Nitrogen (mg/L)	Sodium Adsorption Ratio
Nitrite Nitrogen (mg/L)	Crop (Example: Bermuda Grass, Corn, etc....)
Phosphorus as P_2O_5 (mg/L)	Expected Yield of Crop (tons/acre)
Average daily volume generated (gals/day)	Soil Permeability (cm/s)
Sources of wastewater	Depth to Groundwater (ft)
Specific Conductance ($\mu\text{S}/\text{cm}$)	Soil Conductivity ($\mu\text{S}/\text{cm}$)
pH (s.u.)	pH (s.u.)

2. Mass per Area Limitations for Land Application Sites

The acceptable loading rates are determined by calculating the hydraulic loading that corresponds to the county where the land application site is located. Hydraulic loading, also known as liquid loading, is the volume of water, or in this case wastewater, that the soil can transmit from infiltration at the surface such that it no longer influences the infiltration of additional wastewater.

The liquid loading rate based on the field area available is calculated by:

$$Q = \frac{A * L}{1,118}$$

Where: Q = allowable application rate (MGD)

A = land application site area (acres)

L = annual liquid loading (ft/yr) = evaporation – precipitation + percolation

The 90th percentile rainfall for each county, where the land application site is located, was used. According to OAC 252:656 Appendix D, the annual lake evaporation is a good estimate of evapotranspiration; therefore, the annual lake evaporation for each county was used. Additionally, the average soil percolation for each county was also used. The table below shows the final application rates per county based on hydraulic loading. Wastewater shall be spread uniformly across the land application sites to prevent over-infiltration.

Hydraulic Loading Wastewater Application Rates per County

County	Application Rate (gpd/acre)	County	Application Rate (gpd/acre)	County	Application Rate (gpd/acre)
Adair	1126	Grant	4091	Nowata	2092
Alfalfa	4687	Greer	4896	Okfuskee	2339
Atoka	1457	Harmon	4925	Oklahoma	3240
Beaver	5399	Harper	5318	Okmulgee	1842
Beckham	5228	Haskell	1190	Osage	2325
Blaine	4683	Hughes	2093	Ottawa	751
Bryan	1968	Jackson	4741	Pawnee	2789
Caddo	4685	Jefferson	4317	Payne	2665
Canadian	4216	Johnston	1606	Pittsburg	2361
Carter	3438	Kay	2910	Pontotoc	2576
Cherokee	1097	Kingfisher	4489	Pottawatomie	2854
Choctaw	1385	Kiowa	5006	Pushmataha	924
Cimarron	5613	Latimer	300	Roger Mills	5030
Cleveland	3087	Leflore	1043	Rogers	1821
Coal	1412	Lincoln	2897	Seminole	2299
Comanche	4541	Logan	3126	Sequoyah	1516
Cotton	4381	Love	3387	Stephens	4228
Craig	1298	Major	4754	Texas	5700
Creek	2299	Marshall	1588	Tillman	4611
Custer	4767	Mayes	1758	Tulsa	2345

Hydraulic Loading Wastewater Application Rates per County (continued)

County	Application Rate (gpd/acre)	County	Application Rate (gpd/acre)	County	Application Rate (gpd/acre)
Delaware	908	McClain	4019	Wagoner	1975
Dewey	5107	McCurtain	1162	Washington	2326
Ellis	5454	McIntosh	1313	Washita	4655
Garfield	4229	Murray	2244	Woods	4888
Garvin	3949	Muskogee	1579	Woodward	5148
Grady	4208	Noble	2961		

3. Monitoring Requirements

To ensure compliance with the land application limitations developed above, and to ensure that land application is being performed appropriately and in such a manner as does not damage the land or result in excessive levels of nutrients in the soil, the permittee shall monitor the wastewater used for land application and the land application sites as described below. Soil tests may be performed by a state certified laboratory or by the Oklahoma State University Extension Service's Soil Laboratory.

a. Land Application Monitoring Requirements

Parameter	Limitation	Unit	Monitoring Frequency	Sample Type
Total Volume Applied	Report ⁽¹⁾	gallons	1/year	Estimate
Total Number of Days Applied	Report ⁽¹⁾	days	1/year	Measure
Total Number of Acres Used	Report ⁽¹⁾	acres	1/year	Measure
Type of Crop Planted	Report ⁽¹⁾	---	1/year	Report
Total Precipitation	Report ⁽²⁾	in/yr.	1/year	Measure

⁽¹⁾ The permittee shall keep a written record of the dates on which wastewater was applied, the gallons per day of wastewater applied, the number of acres used for each application, and the type of crop that the wastewater was applied to.

⁽²⁾ The permittee shall keep a written record of the amount of precipitation that occurs monthly at the land application site. Precipitation can be monitored at the facility or obtained from local sources.

b. Wastewater Monitoring Requirements

Parameter	Limitation	Unit	Monitoring Frequency	Sample Type
Total Kjeldahl Nitrogen	Report	mg/L	1/Year	Grab
Ammonia Nitrogen	Report	mg/L	1/Year	Grab
Nitrate Nitrogen	Report	mg/L	1/Year	Grab
Nitrite Nitrogen	Report	mg/L	1/Year	Grab
Phosphorus as P ₂ O ₅	Report	mg/L	1/Year	Grab
Specific Conductance	Report	µS/cm	1/Year	Grab

c. Soil Monitoring Requirements

Parameter	Limitation	Unit	Monitoring Frequency	Sample Type (2),(3),(4),(5)
Nitrogen Concentration	Report	mg/kg	1/year	Composite
Phosphorus Soil Test Index ⁽¹⁾	Report	---	1/year	Composite
Sodium Adsorption Ratio	Report	---	1/year	Composite
Specific Conductance	Report	µS/cm	1/year	Composite

⁽¹⁾ The Mehlich-3 extraction method should be used to determine the phosphorus test index.

⁽²⁾ Soil composite sample for each land application site shall be obtained by combining 15 to 20 core samples per land application site. The core samples shall be collected and mixed thoroughly and a single sample taken from the composited sample.

⁽³⁾ Fields used for production of cultivated crops may be sampled any time after harvest or before planting.

⁽⁴⁾ Non-cultivated fields should be sampled during the dormant season.

- ⁽⁵⁾ Do not sample either cultivated or non-cultivated fields immediately after lime, fertilizer, or manure application.

4. Other Limitations and Requirements

- a.** Wastewater that is to be land applied must be classified as Class III wastewater in accordance with OAC 252:616-1-2.
- b.** Wastewater that is to be land applied shall be visually inspected prior to land application. The wastewater shall be free of any visible sheen of oil or globules of oil or grease.
- c.** There shall be no land application of wastewater in areas where the depth to the maximum seasonal groundwater is less than two (2) feet in accordance with OAC 252:616-5-1(b)(5).
- d.** A land application site shall have minimal slope or be contoured to prevent ponding and soil erosion. No application shall occur on land having a slope exceeding five percent (5%) unless erosion and runoff control provisions are implemented, except that land having a slope of ten percent (10%) or less. Land having a slope greater than ten percent (10%) may be utilized for land application only with Department approval.
- e.** The hydraulic loading at land application sites shall be maintained to prevent surface runoff of applied wastewater to waters of state and to prevent persistent flooding (persistent flooding is defined as soil, which remains saturated for more than 24 hours).
- f.** The land application of wastewater at land application sites shall not occur during periods of precipitation, when the soil is frozen, or while the soil is saturated. The wastewater may be stored in the surface impoundments, underground storage tanks, and/or above ground tanks until the soil is capable of receiving wastewater without persistent flooding or surface runoff.
- g.** Stormwater runoff shall be diverted around land application sites, and all sites shall maintain at least a ten (10) foot wide setback on the boundaries of the site.
- h.** Land application of waste shall not cause permanent vegetative damage or otherwise prevent growth after cessation of land application.
- i.** The land application sites shall be managed to prevent site conditions that have the potential to impact aesthetics, including but not limited to: odors, waste piles, and sludges.
- j.** Wastewater shall not be land applied within 100 feet of a stream or body of water and shall not be applied within two feet of the highest seasonal water level on a site.
- k.** Wastewater shall not be applied within 300 feet of a well that is used for a potable water supply or a public water supply surface water intake.
- l.** Wastewater shall not be land applied within a 100-foot buffer zone of any buildings near or adjacent to the land application sites.
- m.** A hard bound log book(s) shall be kept for each land application site. The log book(s) shall have an entry for each land application event. For all land application sites, there shall be an entry for the date of event, method of spreading, operator name, amount spread, and the area in either acres or square feet over which the volume was spread over. The logbook(s) shall be kept for a period of five (5) years. The logbook(s) shall be made available to DEQ personnel upon request. If the request is made during an inspection by DEQ personnel, the logbooks shall be made available to the inspector within one hour of the request.

The facility shall also keep a record, for each land application site, of any fertilizer that is applied. Applied fertilizer shall include starter fertilizer, commercial fertilizer, lime, and other soil amendments.

- n. In all other respects, land application shall be accomplished in accordance with OAC 252:616-11.

D. OTHER DISPOSAL METHODS

The following requirement has been included in Part II of the draft permit:

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a State-approved waste disposal site or to a company for recycling. Disposal of any waste or wastewater shall be in a manner such as to prevent any pollutant from such materials from entering waters of the State or waters of the United States.

If any such waste or wastewater is removed from the facility, the permittee shall keep accurate records that include the following information:

- (1) The name and address of the company hauling waste.
- (2) The type and amount of the waste hauled.
- (3) The final disposal site of the waste hauled.

The permittee shall retain the above records for a period of at least five (5) years. Upon request, the above records shall be made available to the DEQ's staff for review.

E. REOPENER CLAUSE

The Permit may be reopened to implement and/or require impoundment, tank, and/or land application modifications, additions, extensions, and/or operational changes; monitoring and reporting; reclassification of wastes; sludge management plans; best management practices; closure plans; and/or other appropriate actions.

IV. SUMMARY OF CHANGES FROM THE PREVIOUS PERMIT

- Added language to include wastewater generated from cleaning the facility and equipment.
- Changed reporting requirement for the wastewater from quarterly to yearly.

V. ADMINISTRATIVE RECORD

The following sources were used to prepare the draft permit and constitute a part of its administrative record.

A. APPLICATIONS

None

B. STATE LAW, STANDARDS, AND RULES AND REGULATIONS

Oklahoma Pollutant Discharge Elimination System (OPDES) Act, 27A O.S. §2-14-305 and §2-6-201 *et seq.*
Oklahoma Uniform Environmental Permitting Act, 27A O.S. §2-14-101 *et seq.*
OAC 252:616, Industrial Wastewater Systems (DEQ).
OAC 252:606, OPDES Standards (DEQ).
OAC 252:606, Water Quality Standards Implementation (DEQ).
OAC 252:656, Water Pollution Control Facility Construction Standards (DEQ).
OAC 442, Oklahoma Medical Marijuana Authority
Oklahoma Continuing Planning Process Document (CPP), (DEQ).

C. MISCELLANEOUS

Oklahoma Soil Fertility Handbook, Sixth Edition (2006), (Department of Plant and Soil Sciences, OSU)

VI. REVIEW BY OTHER AGENCIES AND FINAL DETERMINATION

A draft permit, fact sheet, and public notice will be sent to various agencies including the Oklahoma Conservation Commission, Oklahoma Medical Marijuana Administration, and the Oklahoma Department of Agriculture upon publication of that notice. If comments are received from these agencies or other State or Federal agencies with jurisdiction over fish, wildlife, or public health, the Permit may be denied or additional conditions may be included in accordance with regulations promulgated under 40 C.F.R. Part § 124.59.

The public notice describes the procedures for the formulation of final determinations.