

STATE OF MISSISSIPPI SOLID WASTE MANAGEMENT PERMIT

TO OPERATE A SOLID WASTE MANAGEMENT FACILITY IN ACCORDANCE
WITH THE REGULATIONS GOVERNING
SOLID WASTE MANAGEMENT

THIS CERTIFIES THAT

Denali Water Solutions, LLC

has been granted permission to operate a solid waste management facility

located at

Sections: 12, 13, 14, 15, 21, 22, 23, 24, 26, and 28, Township: 9 North, Range: 2 West;

Sections: 24, 26, 27, 34, 35, and 36, Township: 10 North, Range 2 West;

Sections: 1, 2, 3, 4, 6, 9, 10, 11, 12, 13, 14, 33, 34, 35, and 36, Township: 10 North, Range: 1 West;

Sections: 1, 2, 3, 4, 33, 34, 35, and 36, Township: 11 North, Range 1 West;

Sections: 1, 6, and 12, Township: 10 North, Range 1 East;

of Yazoo County

under the name of

Yazoo County Land Application Sites

This permit is issued in accordance with the provisions of the Mississippi Code Annotated, and the regulations and guidelines adopted and promulgated thereunder

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD



AUTHORIZED SIGNATURE

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Issued: October 1, 2026
Expires: September 30, 2036

Permit No. SW0820030572

CONDITIONS

A. EFFECT OF PERMIT

The permittee shall operate the solid waste management facility in accordance with the Mississippi Nonhazardous Solid Waste Management Regulations (11 Miss. Admin. Code Pt. 4, Ch. 1), applicable state and federal regulations, the approved permit application, and the conditions of this permit. Any changes, alterations, or modifications of the above referenced regulations which pertain to any condition of this permit shall supersede and replace the affected conditions of this permit. In such instances, the permittee shall comply with the altered condition(s) of the Mississippi Nonhazardous Solid Waste Regulations.

B. PERMIT ACTIONS

This permit may be modified, revoked, and/or reissued for good cause or noncompliance with the terms and conditions of the permit. The filing of a request for a permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated noncompliance on the part of the permittee does not stay the applicability or enforceability of any permit condition.

C. SEVERABILITY

The provisions of the permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS

1. Duty to Comply. The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Mississippi Code Annotated and regulations promulgated thereunder and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application.
2. Duty to Reapply. If the permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the permittee must submit a complete application for a new permit at least 180 days before this permit expires.
3. Duty to Mitigate. The permittee shall take all reasonable steps to minimize, prevent, or correct any adverse impact on human health or the environment resulting from noncompliance with this permit.
4. Proper Operation and Maintenance. The permittee shall at all times

properly operate and maintain all equipment and systems which are installed or used by the permittee to achieve compliance with the conditions of this permit and application as submitted and approved by the Department of Environmental Quality (Department).

5. Duty to Provide Information. The permittee shall furnish to the Department, within a reasonable time, any relevant information which the Department may request to determine whether cause exists for modifying, revoking, and reissuing, or terminating this permit, or to determine compliance with this permit.
6. Inspection and Entry. The permittee shall allow an authorized representative of the Department upon the presentation of credentials and other documents as may be required by law to:
 - a. Enter on the permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;
 - b. Have access to and copy at reasonable times any records that must be kept under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under this permit;
 - d. Sample or monitor at reasonable times for the purposes of assuring permit compliance.
7. Property Rights. It is the responsibility of the permittee to possess or acquire a sufficient interest in or right to the use of the properties described in this permit, including the access route(s).

The issuance of this permit does not convey any property rights or interest in either real or personal property; nor does it authorize any injury to private property, invasion of personal rights, or impairment of previous contract rights; nor any infringement of federal, state, or local laws or regulations outside the scope of the authority under which this permit is issued.

8. Anticipated Noncompliance. The permittee shall give written notice to the Department at least 30 days in advance of any planned changes in the permitted facility or activity which may result in noncompliance with the requirements of this permit or the Mississippi Nonhazardous Solid Waste Management Regulations.

9. Transfer of Permits. This permit is not transferable to any person except after notice to and approval of the Mississippi Environmental Quality Permit Board. The Permit Board may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary.
10. Modification of Permits. Any proposed modification to the approved application or plan of operations resulting in an expansion of the disposal area or a significant change in the method of waste management must be approved by the Permit Board or the Board's designee prior to implementation. Other proposed modification to the approved facility design or operations must be approved by the Department prior to implementation.
11. Disclosure. The permittee shall submit an updated disclosure statement with an application for the reissuance or modification of this permit. If all information from the previously submitted disclosure statement is unchanged, a letter stating such may be submitted in lieu of an updated disclosure statement.
12. Signature Requirements. The permittee shall ensure that an application for the re-issuance, modification or transfer of this permit and all reports required by this permit or by state regulations shall be signed in accordance with Rule 1.2 of the Mississippi Nonhazardous Solid Waste Management Regulations.
13. Contract Operator. If the permittee executes a contract with a private entity to operate the land application site, a complete disclosure form for the contractor shall be submitted and approved by the Permit Board or the Permit Board's Designee prior to the contractor beginning operations.

E. AUTHORIZED WASTES

The land application sites may receive municipal sewage sludges (biosolids) generated by approved municipal wastewater treatment plants that comply with the Class B (or better) pathogen reduction requirements in 40 CFR 503.32, the vector attraction reduction requirements in 40 CFR 503.33, and with the analysis requirements of Section G. of this permit.

1. The permittee is authorized to accept, manage, and land apply biosolids from municipal wastewater treatment facilities located within the service area described in the Yazoo County Solid Waste Management Plan. Biosolids generated in areas not within the approved service area shall be prohibited from acceptance for land application at the sites authorized under this permit.

2. The Department may approve biosolids from new municipal wastewater treatment facilities from within the approved service area. Requests for a new source must include the name and address of the generator; a sludge analysis for all parameters listed under Section G. of this permit; and any other information requested by the Department.

F. LAND APPLICATION REQUIREMENTS

1. Area of Application

- a. The permittee is authorized to land apply approved sludges to the approved areas designated in the application and in accordance with the locational restrictions of this permit and the applicable locational restrictions of the Mississippi Nonhazardous Solid Waste Management Regulations. The application area boundaries shall be clearly marked or identified in accordance with the approved plan of operations during land application activities.
- b. The approved land application areas (excluding buffer zones) are described as follows:

The Yazoo County Land Application Sites include 37 fields with a total of 3,526 acres available for land application in Yazoo County, Mississippi. The fields are owned by three different property owners Ryan Ragland, Billy Joe Ragland, and David Dooley.

Field	Field Acreage	Land Application Acreage	Sec / Twn / Rng
1-1	153.9	91.2	15 / T9N / R2W
1-2	177	69.2	21 / T9N / R2W
3-1	198.6	134.9	23, 26 / T9N / R2W
6-1	240.6	126.9	21 / T9N / R2W
7-1	98.5	65	23 / T9N / R2W
8-1	246.3	138.5	28 / T9N / R2W
10-1	180.2	99.1	26,35,36 / T10N / R2W
10-2	308.6	180.4	34,35 / T10N / R2W
10-3	168.2	108.8	24,27 / T10N / R2W
11-1	252.4	179.5	12,13,14,24 / T9N / R2W
12-1	51	31	22 / T9N / R2W
13-1	60.9	24.9	35 / T10N / R2W

14-1	153.6	111.6	11,12,13,14 / T10N / R1W
15-1	169.3	48.8	2,35 / T10N / R1W 2,35 / T11N / R1W
15-2	52.4	28.9	35 / T11N / R1W
15-3	552	309.7	2,3,34,35 / T10,11N / R1W 2,3,34,35 / T11N / R1W
15-4	16.3	12.0	34 / T11N / R1W
15-5	35.9	24.1	2,11 / T10N / R1W
15-6	42.6	8.6	2,11 / T10N / R1W
15-7	116.5	33.9	3 / T10N / R1W
15-8	44.9	29.1	3 / T10N / R1W
15-9	35.6	34.8	34 / T11N / R1W
15-10	247.6	193	3,10,9 / T10N / R1W
15-11	90.4	67.8	4 / T10N / R1W
15-12	332.4	233.9	4,33 / T10 / R1W 4,33 / T11N / R1W
15-13	26.1	17.4	33 / T11N / R1W
15-14	128.8	97.3	3,33,34 / T10 / R1W 3,33,34 / T11N / R1W
15-15	21.2	7	2 / T11N / R1W
15-16	61.2	41.2	33 / T11N / R1W
15-17	126.3	76.0	34 / T11N / R1W
15-18	347.2	232.9	1,36 / T10 / R1W 1,36 / T11N / R1W
15-19	360.8	317.7	1,12 / T10N / R1W
15-20	149.6	118.1	1,6,12 / T10N / R1W 1,6,12 / T10N / R1E
15-21	69.2	56.0	2,11,12 / T10N / R1W
15-22	29.5	12.9	11 / T10N / R1W
15-23	151.5	120.5	12 / T10N / R1W
15-24	59.3	43.4	12 / T10N / R1W

- c. The permittee shall ensure that no sludge is applied within 200 feet of the property line, except in areas where the off-site view of the property is restricted by onsite natural or artificial screening. A buffer of 100 feet may be used where adequate screening exists and is maintained as identified in the approved plan of operations. No sludge shall be applied within 100 feet of the adjacent property boundaries unless approved by the Department.
- d. The permittee shall ensure that no sludge is applied within 300 feet of any inhabited building, unless otherwise approved by the Department.

- e. The permittee shall ensure that no sludge is applied within 0.5 mile of any licensed school, licensed day-care center, licensed hospital, or licensed nursing home, or within 1000 feet of any church unless approved by the Department. A smaller setback distance may be approved by the Department if a written agreement is obtained from the owner or an appropriate representative stating that a smaller setback is acceptable.
- f. The permittee shall ensure that no sludge is applied on wetland areas unless such application is conducted in accordance with requirements of the U. S. Army Corps of Engineers and/or Natural Resources Conservation Service.
- g. The permittee shall ensure that no sludges are land applied within 250 feet of the banks of any river, stream, lake, reservoir, or coastal water. The Department reserves the right to require greater buffer distances should the conditions of the operation warrant change.

2. Operating Conditions

The permittee shall conduct the authorized land application activities at each approved field in accordance with the following conditions:

- a. The permittee shall provide written notification to the Department at least 7 days prior to beginning or resuming sludge application activities at any permitted field.
- b. Approved sludges shall be applied in accordance with the approved plan of operations and the following methods:
 - 1. Subsurface injection to a minimum depth of six (6) inches below ground surface; or
 - 2. Uniform surficial application, then within 6 hours incorporation into the soil by disking or plowing until the waste is adequately turned under the soil or thoroughly mixed with the soil; or
 - 3. Other acceptable land application methods approved by the Department.
- c. The permittee shall ensure that application of sludge to permitted fields shall be done such that overloading does not allow for sludge to remain above the ground surface. The Department may require a hydraulic loading rate if deemed necessary to meet this condition.

- d. The permittee shall ensure that all biosolids transported to the site of application are applied on the same day as received. Any biosolids that cannot be applied on the same day shall be removed and disposed at another permitted land application site or permitted disposal facility or otherwise managed in a manner approved by the Department.
- e. The permittee shall ensure that the land application activity is conducted in a manner that would prevent objectionable off-site odors, vector attraction, and other off-site nuisances.
- f. The permittee shall ensure that land application of sludge or other residue is not applied to saturated ground. Saturation may be determined by digging a hole one-foot deep at the lowest point of the application area and observing for 30 minutes. If water appears in the hole, the soil is considered to be saturated.
- g. The permittee shall conduct the land application activities in such manner to ensure no contaminant will be allowed to enter any surface water or groundwater as a result of runoff or infiltration that would violate any water quality standard established by the Mississippi Commission on Environmental Quality.
- h. The permittee shall maintain the soil pH of each receiving field at or above 6.5, unless otherwise approved by the Department. If the initial soil testing for the field pH is below 6.5, then the initial pH recorded is the lowest acceptable pH for that field.
- i. The permittee shall work with the receiving farming operations to ensure that food crops for indirect human consumption are not planted for 30 days after application of sludge. Planting of food crops that will be consumed raw by humans shall not occur until 18 months after the application of sludge.
- j. The permittee shall establish reasonable controls on the access to the fields utilized for land application to restrict unauthorized personnel from entering the land application areas during operation and also for at least 12 months following the previous application.
- k. The permittee shall strictly prohibit the grazing of animals during operations and 30 days after application.
- l. All fields designated for application which exist partially or wholly in the floodplain shall be operated under seasonal restrictions during the wet period from November to April, unless otherwise approved by the Department.

- m. The permittee shall ensure that biosolids are land applied in a hydrologic section where the historic highwater table is at a safe depth below the zone of incorporation.

G. MONITORING, RECORDKEEPING, AND REPORTING CONDITIONS

Unless otherwise approved by the Department, the permittee shall conduct sampling, monitoring, and reporting activities as follows:

1. The permittee shall maintain records listing the date(s) and areas on which sludges were applied, the quantity and source of sludges applied, and the types of crops grown on each area.
2. The permittee shall ensure all sludge and soil samples taken as required under this permit for the purposes of monitoring or quality assurance shall be representative samples.
3. The permittee shall obtain analyses for sludge from the source facilities prior to each land application event. The analyses (on a dry weight basis) must include pH, TKN, ammonia-nitrogen, nitrate-nitrogen, total arsenic, total cadmium, total copper, total lead, total mercury, total molybdenum, total nickel, total selenium, total zinc, percent solids, and fecal coliform density.
4. The permittee shall collect and analyze representative samples of the biosolids at the following minimum frequencies, based on the total dry metric tons (DMT) of biosolids land-applied in the previous 12-month period:
 - a. Less than 290 DMT/year: at least one sampling event per year (annually),
 - b. Equal to or greater than 290 but less than 1,500 DMT/year: at least one sampling event per quarter (quarterly),
 - c. Equal to or greater than 1,500 but less than 15,000 DMT/year: at least one sampling event every 60 days (bimonthly), and
 - d. Equal to or greater than 15,000 DMT/year: at least one sampling event per month (monthly).
5. The permittee shall ensure that the concentration of any pollutant on a dry weight basis in sludges to be land applied does not exceed the following ceiling concentrations:

	Ceiling Concentration
<u>Pollutant</u>	<u>(milligrams per kilogram)</u>

Arsenic	75
Cadmium	85
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

6. The permittee shall ensure that the annual application rate for cadmium does not exceed 0.45 lbs/acre/year, unless otherwise approved by the Department.
7. The permittee must obtain Department approval prior to changing the approved cover crop and the sludge application rates. In addition, the permittee must obtain Department approval prior to growing a cover crop at the permitted site not included in the list below. The Plant Available Nitrogen (PAN) shall not exceed the following annual application rates in accordance with the cover crop as listed below:

<u>Crop</u>	<u>Maximum PAN (lbs/Acre/Year)</u>
Bahia Grass	160
Bermuda Grass	300
Fescue	120
Cotton	180
Corn	240
Clover, Alfalfa, Vetch	450
Grain Sorghum	180
Silage Sorghum	300
Millet	150
Rye Grass	220
Soybeans	300
Wheat	135

8. The permittee shall not exceed the following cumulative pollutant loading rates from sludge application during the life of the land application activity:

<u>Pollutant</u>	<u>lbs/Acre</u>
Arsenic	36

Cadmium	34
Copper	1338
Lead	267
Mercury	15
Nickel	374
Selenium	89
Zinc	2497

9. The permittee shall annually obtain at least one composite soil sample of each field of the permitted sites on which sludge was applied. The soil samples shall be analyzed for pH, total arsenic, total cadmium, total copper, total lead, total mercury, total nickel, total selenium, and total zinc.
10. The permittee shall retain records of monitoring information, including copies of all reports and records required by this permit, for a period of no less than 5 years. Records of monitoring information shall include:
 - a. The dates, exact place, and time of sampling or measurements;
 - b. The individuals who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
11. The permittee shall submit an annual report to the Department on or before February 28th each year that includes information regarding the preceding calendar year. The report shall include the following information and shall be submitted on forms or through electronic reporting systems provided by the Department:
 - a. the total quantity, by weight in tons, of sludge land applied;
 - b. the source(s) of sludge or authorized waste received for land application including facility name, physical address, and county and state of origin;
 - c. the total permitted land application area and total number of sites or fields within the permitted application area;
 - d. the total area used for land application during the calendar year;
 - e. the name and/or number of sites/fields used, and the type of crops grown on those fields during the calendar year;
 - f. the analytical results of all monitoring required pursuant to Section G. of this permit, including the soil analysis from each field used and the quantity of plant available nitrogen (PAN), arsenic, cadmium, copper, lead, mercury, nickel, selenium, and zinc applied to each field in lbs/acre/year;
 - g. updated disclosure information; and

- h. A demonstration of compliance with the pathogen and vector attraction reduction requirements in 40 CFR 503.32 and 40 CFR 503.33.(b)(1)-(10), respectively. A signed and dated certification statement must accompany this demonstration as described in 40 CFR 503.17.