PERMIT NO. WQ0004989000

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

PERMIT TO LAND APPLY SEWAGE SLUDGE
under provisions of Chapter 26 of the Texas Water Code,
Chapter 361 of Health and Safety Code, Chapter 312 of Texas Administrative Code.

I. PERMITTEE:

Terra Renewal Services, Inc.
P.O. Box 399
Dardanelle, Arkansas 72834

II. AUTHORIZATION:

Beneficial Land Application of Wastewater Treatment Plant (WWTP) sludge, and Water Treatment Plant (WTP) sludge.

III. GENERAL DESCRIPTION AND LOCATION OF SITE:

Description: The permittee is authorized to land apply WWTP sewage sludge and WTP sluge at an annual rate not to exceed 12 dry tons per acre per year on Fields S-1, S-4, and S-5; 11.82 dry tons/acre/year on Fields S-6, S-7, and S-10; and 11.78 dry tons/acre/year on Field S-8 on 320.9 acres located within approximately 1,096.9 acres at this site.

Location: The sludge land application site is located at 476 Brookshire Street, approximately one mile north of the intersection of Highway 31 and Brookshire Street, northwest of the Community of Powell in Navarro County, Texas 75153 (see Attachment A).

SIC Code: 4952

Drainage Basin: The sludge land application site is located in the drainage basin of Trinity River Above Lake Livingston in Segment No. 0804 of the Trinity River Basin. No discharge of pollutants into waters in the State is authorized by this permit.

This permit and the authorization contained herein shall expire **at midnight five years from the date of issuance** listed below.

ISSUED DATE:

For the Commission

IV. GENERAL REQUIREMENTS:

A. The permittee shall handle and dispose of sewage sludge (including WTP sludge) in accordance with 30 TAC Chapter 312 and all other applicable state and federal regulations in a manner which protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants which may be present in the sludge.

B. An application to renew this permit shall be submitted by the permittee at least 180 days prior to expiration date of this permit.

C. WWTP and WTP sludge

1. In all cases, the generator or processor of sewage sludge shall provide necessary analytical information to the parties who receive the sludge, including those receiving the sewage sludge for land application, to assure compliance with these regulations.

2. The permittee shall not accept sludge that fails the Toxicity Characteristic Leaching Procedure (TCLP) test per the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I or other method, which receives the prior approval of the TCEQ for the contaminants listed in Table 1 of 40 CFR Section 261.24.

3. Sewage sludge shall not be applied to the land if the concentration of any metal exceeds the ceiling concentration listed in Table 1 below. Additional information on the frequency of testing for metals is found in Section IX.

Table 1

Pollutant	Ceiling Concentration (milligrams per kilogram)*
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

* Dry weight basis

4. When the total aggregate amount of any metal in Table 2 (in all sludge applied at the site during the entire use of this site) reaches the cumulative level listed in Table 2 below, only sludge with metal levels at or below those shown Table 3 below can be applied at the site. To compute this criteria, the total amount of each metal in all sludge applied must be summed on a continuing basis as sludge is applied.

Table 2

Pollutant	Cumulative Pollutant Loading Rate (pounds per acre)
Arsenic	36
Cadmium	35
Chromium	2677
Copper	1339
Lead	268
Mercury	15
Molybdenum	Report Only
Nickel	375
Selenium	89
Zinc	2500

Table 3

Pollutant	Concentration milligrams per kilogram)*
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Report Only
Nickel	420
Selenium	36
Zinc	2800

* Dry weight basis

5. Sludge also cannot be applied in excess of the most restrictive of the following criteria:

   a. The maximum sludge application rate (MSAR) based on crop nitrogen needs (also referred to as the agronomic rate), which is calculated based on the total amount of nitrogen in the sludge, septage and in the soils at the application site and on the nitrogen requirements of the vegetation in the application area.

   b. The MSAR for each metal pollutant in Table 1 above, which is calculated individually for each metal based on its concentration in the sludge and in the soils in the application area.

6. All of the MSARs above must be calculated using Appendix A of the "Application for Permit for Beneficial Land Use of Sewage Sludge." These calculations must cover both sludge and septage for areas where both are applied. If sludge is received from multiple sources, the average concentration of each of the elements above must be determined using "Table 2 - Volume Weighted Average (Mean) of Nutrient and Pollutant Concentration" from the application form.

7. Anytime the permittee plans to accept WWTP or WTP sludge from any source(s) other than those listed in the application and approved for this permit, the permittee must notify and receive authorization from the Water Quality Division, Municipal Permits Team(MC 148) of the TCEQ prior to receiving the new sludge. The notification must include information to demonstrate the sludge from the proposed new source(s) meets the requirements of this permit. The permittee must provide certifications from each source that the sludge meets the requirement for a Process to Significantly Reduce Pathogens (PSRP) or other alternatives. The permittee must provide documentation that the sludge meets the limits for polychlorinated biphenyls (PCBs), vector attraction and the metal pollutants in Table 1 above. No sludge from sources other than the ones listed in the application can be land applied prior to receiving written authorization from the TCEQ.

D. The permittee shall maintain a commercial liability insurance policy for the duration of the permit that:

1. is issued by an insurance company authorized to do business in this state that has a rating by the A.M. Best Company of A- or better;

2. designates the commission as an additional insured; and

3. is in an amount of not less than $3 million.

E. The permittee shall maintain an environmental impairment insurance policy for the duration of the permit that:

1. is issued by an insurance company authorized to do business in this state that has a rating by the A.M. Best Company of A- or better;

2. designates the commission as an additional insured; and

3. is in an amount of not less than $3 million.

V. OPERATIONAL REQUIREMENTS:

The operation and maintenance of this land application site must be in accordance with 30 TAC Chapter 312 and Title 40 of the Code of Federal Regulations (40 CFR) Part 503 as they relate to land application for beneficial use. All applicable local and county ordinances must also be followed.

VI. REQUIRED MANAGEMENT PRACTICES:

A. Sludge applications must not cause or contribute to the harm of a threatened or endangered species of plant, fish, or wildlife or result in the destruction or adverse modification of the critical habitat of a threatened or endangered species.

B. Sludge must not be applied to land that is flooded, frozen or snow-covered to prevent entry of bulk sewage sludge into wetlands or other waters in the State.

C. Sludge shall be land applied in a manner which complies with Management Requirements in accordance with 30 TAC Section 312.44, including maintaining the following buffer zones for each application area.

1. Established school, institution, business or residence	750 feet
2. Public water supply well, intake, public water supply spring or similar source, public water treatment plant, or public water supply elevated or ground storage tank	500 feet
3. Solution channels, sinkholes, or other conduits to groundwater	200 feet
4. Waters in the State of Texas - when sludge is not incorporated	200 feet
5. Waters in the State of Texas - when sludge is incorporated within 48 hours of application and a vegetated cover is established	33 feet
6. Private water supply well	150 feet
7. Public right of way	50 feet
8. Property boundary	50 feet
9. Irrigation conveyance canals	10 feet

D. Sludge must be applied to the land at an annual application rate that is equal to or less than the agronomic rate for the vegetation in the area on which the sludge is applied.

E. The seasonally high water table, groundwater table, or depth to water-saturated soils must be at least three (3) feet below the treatment zone for soils with moderate to slow permeability (less than two inches per hour) or four (4) feet below the treatment zone for soils with rapid to moderately rapid permeability (between two and twenty inches per hour). Sludge cannot be applied to soils with permeation rates greater than twenty inches per hour.

F. Sludge must be applied by a method and under conditions that prevent runoff beyond the active application area and that protect the quality of the surface water and the soils in the unsaturated zone. In addition, the following conditions must be met:

1. sludge must be applied uniformly over the surface of the land;

2. sludge must not be applied to areas where permeable surface soils are less than 2 feet thick;

3. sludge must not be applied during rainstorms or during periods in which surface soils are water-saturated;

4. sludge must not be applied to any areas having a slope in excess of 8%;

5. where runoff from the active application area is evident, the operator must cease further sludge application until the condition is corrected;

6. the site operator must prevent public health nuisances. Sludge debris must be prevented from leaving the site. Where nuisance conditions exist, the operator must eliminate the nuisance as soon as possible;

7. sludge application practices must not allow uncontrolled public access, so as to protect the public from potential health and safety hazards at the site; and

8. sludge can be applied only to the land application area shown on Attachment B. The buffer zones as listed on that map as well as the buffer zone distances listed in section VI.C. must not have any sludge applied on them.

G. The permittee shall post a sign that is visible from a road or sidewalk that is adjacent to the premises on which the land application unit is located stating that a beneficial land use application site is located on the premises.

VII. PATHOGEN CONTROL:

A. All sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site must be treated by one of the following methods to ensure that the sludge meets either the Class A or Class B pathogen requirements.

1. Six alternatives are available to demonstrate compliance with Class A sewage sludge.

The first 4 options require either the density of fecal coliform in the sewage sludge be less than 1000 Most Probable Number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four

grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. Below are the additional requirements necessary to meet the definition of a Class A sludge.

Alternative 1 The temperature of the sewage sludge that is used or disposed must be maintained at or above a specific value for a period of time. See 30 TAC §312.82(a)(2)(A) for specific information.

Alternative 2 The pH of the sewage sludge that is used or disposed must be raised to above 12 std. units and shall remain above 12 std. units for 72 hours.

The temperature of the sewage sludge must be above 52 degrees Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12 std. units.

At the end of the 72-hour period during which the pH of the sewage sludge is above 12 std. units, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50 percent.

Alternative 3 The sewage sludge must be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(C)(i-iii) for specific information. The sewage sludge must be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(C)(iv-vi) for specific information.

Alternative 4 The density of enteric viruses in the sewage sludge must be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. The density of viable helminth ova in the sewage sludge must be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

Alternative 5 Processes to Further Reduce Pathogens (PFRP) - Sewage sludge that is used or disposed of must be treated in one of the processes to Further Reduce Pathogens (PFRP) described in 40 CFR Part 503, Appendix B. PFRP include composting, heat drying, heat treatment, and thermophilic aerobic digestion.

Alternative 6 (PFRP Equivalent) - Sewage sludge that is used or disposed of must be treated in a process that has been approved by the U. S. Environmental Protection Agency as being equivalent to those in Alternative 5.

2. Three alternatives are available to demonstrate compliance with Class B criteria for sewage sludge.

Alternative 1 i. A minimum of seven random samples of the sewage sludge must be collected within 48 hours of the time the sewage sludge is used or disposed of during each monitoring episode for the sewage sludge.

ii. The geometric mean of the density of fecal coliform in the samples collected must be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of

total solids (dry weight basis).

Alternative 2 Sewage sludge that is used or disposed of must be treated in one of the Processes to Significantly Reduce Pathogens (PSRP) described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the sewage sludge.

i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;

ii. An independent Texas Licensed Professional Engineer must provide a certification to the generator of sewage sludge that the wastewater treatment facility generating the sewage sludge is designed to achieve one of the PSRP at the permitted design loading of the facility. The certification need only be repeated if the design loading of the facility is increased. The certification must include a statement indicating the design meets all the applicable standards specified in Appendix B of 40 CFR Part 503;

iii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U. S. Environmental Protection Agency final guidance;

iv. All certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and

v. If the sewage sludge is generated from a mixture of sources, resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product must meet one of the PSRP, and must meet the certification, operation, and record keeping requirements of this paragraph.

Alternative 3 Sewage sludge must be treated in an equivalent process that has been approved by the U. S. Environmental Protection Agency, so long as all of the following requirements are met by the generator of the sewage sludge.

i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;

ii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall

certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements must be in accordance with established U. S. Environmental Protection Agency final guidance;

iii. All certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review;

iv. The executive director will accept from the U. S. Environmental Protection Agency a finding of equivalency to the defined PSRP; and

v. If the sewage sludge is generated from a mixture of sources resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product must meet one of the Processes to Significantly Reduce Pathogens, and must meet the certification, operation, and record keeping requirements of this paragraph.

B. In addition, the following site restrictions must be met if Class B sludge is land applied:

1. food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface must not be harvested for 14 months after application of sewage sludge;

2. food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for 4 months or longer prior to incorporation into the soil;

3. food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 months prior to incorporation into the soil;

4. food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge;

5. animals shall not be allowed to graze on the land for 30 days after application of sewage sludge;

6. turf grown on land where sewage sludge is applied shall not be harvested for 1 year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn.

7. public access to land with a high potential for public exposure shall be restricted for 1 year after application of sewage sludge.

8. public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge; and

9. land application of sludge shall be in accordance with the buffer zone requirements found in 30 TAC §312.44.

VIII. VECTOR ATTRACTION REDUCTION REQUIREMENTS:

A. All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following alternatives for Vector Attraction Reduction.

Alternative 1 The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent [30 TAC §312.83(b)(1)].

Alternative 2 If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. Volatile solids must be reduced by less than 17 percent to demonstrate compliance [30 TAC §312.83(b)(2)].

Alternative 3 If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. Volatile solids must be reduced by less than 15 percent to demonstrate compliance [30 TAC §312.83(b)(3)].

Alternative 4 The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process must be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius. This test may only be run on sludge with a total percent solids of 2.0% or less [30 TAC §312.83(b)(4)].

Alternative 5 Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius [30 TAC §312.83(b)(5)].

Alternative 6 The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours at the time the sewage sludge is prepared for sale or given away in a bag or other container [30 TAC §312.83(b)(6)].

Alternative 7 The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process [30 TAC §312.83(b)(7)].

Alternative 8 The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials at the time the sludge is used. Unstabilized solids are defined as organic materials in sewage sludge that have not been

treated in either an aerobic or anaerobic treatment process [30 TAC §312.83(b)(8)].

Alternative 9 Sewage sludge shall be injected below the surface of the land. No significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected. When sewage sludge that is injected below the surface of the land is Class A with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(9)].

Alternative 10 Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land. When sewage sludge that is incorporated into the soil is Class A with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(10)].

IX. MONITORING REQUIREMENTS:

The sewage sludge must be monitored according to 30 TAC §312.46(a)(1) for the ten metals in Table 1 of Section IV.C.3, pathogen reduction, and vector attraction reduction.

A. If the concentration of nitrogen or any of the metals in Table 1 in Section IV.C.3 exceeds the concentration used to calculate any of the MSARs in Sections IV.C.5 and IV.C.6, the MSAR for that element must be recalculated. If the sludge comes from multiple sources, the calculations must use Table 2 in Section IV.C.4 to provide a volume weighted average of all sludge that will be applied during the current monitoring period.

B. After the sludge has been monitored according to 30 TAC §312.46(a)(1) for a period of two years, an application may be submitted to amend this permit to reduce the frequency of monitoring.

C. The frequency of monitoring will be increased if recalculation of the agronomic rate increases the amount of sludge that can be applied to a higher threshold, as shown in 30 TAC §312.46(a)(1). The frequency of monitoring may also be increased if the TCEQ determines that the level of pollutants or pathogens in the sludge warrants such action.

D. If WWTP and WTP sludge is received at this site for land application then the permittee must ensure that the test data for TCLP and PCBs is provided from the generators.

E. All metal constituents and Fecal coliform or Salmonella sp. bacteria shall be monitored at the appropriate frequency pursuant to 30 TAC §312.46(a)(1).

F. Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 30 TAC §312.7.

G. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

X. RECORD KEEPING REQUIREMENTS:

The permittee shall fulfill record keeping requirements per 30 TAC §312.47. The documents shall be retained at the site and shall be readily available for review by a TCEQ representative.

A. Records of the following general information must be kept for all types of sludge and land application permits:

1. a certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 30 TAC §312.47(a)(4)(A)(ii) or 30 TAC §312.47(a)(5)(A)(ii), whichever is applicable;

2. the location, by street address, and specific latitude and longitude, of each site on which sewage sludge (including WTP sludge) is applied;

3. the number of acres in each site on which bulk sludge is applied;

4. the dates, times and quantities of sludge is applied to each site;

5. the cumulative amount of each pollutant in pounds per acre listed in Table 2 of Section IV.C.4 applied to each site;

6. the total amount of sludge applied to each site in dry tons; and

7. a description of how the management practices listed above in Section IV.C., and 30 TAC §312.44 are being met. If these requirements are being met, prepare and keep a certification statement per 30 TAC §312.47(5)(B)(viii).

B. For Sewage Sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4; which also meets Class A pathogen requirements in 30 TAC §312.82(a), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10):

1. a description of how the vector attraction reduction requirements are met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(xii).

C. For Sewage Sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4; and which also meets Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10):

1. a description of how site restrictions for Class B sludge in 30 TAC §312.82(b)(3) are being met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(x); and

2. a description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are met. If these requirements are being met, prepare and keep a certification statement per 30 TAC §312.47(5)(B)(xii).

D. For Sewage Sludge with metal concentrations at or below levels in Table 1 of Section IV.C.3; and which also meets Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10):

1. a description of how the requirements to obtain information from the generators of sludge in

30 TAC §312.42(e) are being met. If these requirements are being met, prepare and keep a certification statement per 30 TAC §312.47(5)(B)(vi);

2. a description of how site restrictions for Class B sludge in 30 TAC §312.82(b)(3) are being met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(x); and

3. a description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(xii).

XI. REPORTING REQUIREMENTS:

A. Permittee shall submit a separate annual report by September 30th of each year per 30 TAC §312.48 for each site. The annual report must include all the information required under 30 TAC §312.48 (including the items listed below) for a period covering September 1st of previous year through August 31st of current year. Additionally an "Annual Sludge Summary Report Form" (Attachment C) should be filled out and submitted with the annual report. Submit your report to the Water Quality Division, Municipal Permits Team (MC 148) and the TCEQ Regional Office (MC Region 4). Record retention requirements must be followed in accordance with 30 TAC §312.47.

1. Annual Sludge Summary Sheet (a blank form is provided in Attachment C of this permit) with following information. This information must be submitted by all permittees:

   i. permit number;

   ii. the site location (address or latitude and longitude);

   iii. operator address, contact person name, telephone number, and fax number;

   iv. amount of sludge disposal dry weight (lbs/acre) at each disposal site;

   v. number of acres on which sludge and septage is land applied;

   vi. vegetation grown and number of cuttings; and

   vii. other items listed in the summary sheet.

2. If the sludge concentration for any metal listed in Table 3 of Section IV.C.4 is exceeded, the report must include the following information:

   i. date and time of each sludge application;

   ii. all four certification statements required under 30 TAC §312.47(a)(5)(B);

   iii. a description of how the information from the sludge generator was obtained, as per 30 TAC §312.42(e);

   iv. a description of how each of the management practices in 30 TAC §312.44 were met for this site;

   v. a description of how the site restrictions in 30 TAC §312.82(b)(3) were met for the site;

vi. if the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are met, a description of how this was done;

vii. soil and sludge test reports, as required in Section XII of this permit; and

viii. calculations of the current agronomic sludge application rate and the life of the site based on metal loadings (Appendix A of application, as identified in Section IV.C.4, or similar form).

3. If none of the concentrations for the metals exceed the values listed in Table 3 in Section IV.C.4 of this permit:

   i. information per 30 TAC §312.47(a)(3)(B) for Class A sludge; and

   ii. information per 30 TAC §312.47(a)(4)(B) for Class B Sludge.

4. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2 in Section IV.C.4 of this permit the permittee shall provide the following additional information:

   i. date and time of each sludge application;

   ii. the information in 30 TAC §312.47(a)(5)(A) must be obtained from the sludge generator and included in the report; and

   iii. the cumulative amount in pounds per acre of each pollutant listed in Table 2 in Section IV.C.4 applied to each application field of this site through bulk sewage sludge.

5. Permittee shall submit evidence that the permit holder is complying with the nutrient management plan developed by a certified nutrient management specialist in accordance with the practice standards of the Natural Resources Conservation Service of the United States Department of Agriculture.

B. Permittee shall submit a quarterly report by the 15th day of the month following each quarter during the reporting period (ie. quarterly reports will be due December 15th, March 15th, June 15th, and September 15th). Additionally, a "Quarterly Sludge Summary Report Form" (Attachment D) should be filled out and submitted with the quarterly report. The quarterly report must include all the information listed below. Submit your report to the Water Quality Division, Municipal Permits Team (MC 148) and the TCEQ Regional Office (MC Region 4). Record retention requirements must be followed in accordance with 30 TAC §312.47. The Quarterly Sludge Summary Report Form must include:

   1. the source, quality, and quantity of sludge applied to the land application unit;

   2. the location of the land application unit, either in terms of longitude and latitude or by physical address, including the county;

   3. the dates of delivery of Class B sludge;

   4. the dates of application of Class B sludge;

5. the cumulative amount of metals applied to the land application unit through the application of Class B sludge;

6. crops grown at the land application unit site; and

7. the suggested agronomic application rate for the Class B sludge.

XII. SOIL SAMPLING AND ANALYSIS:

The permittee is required to notify the local TCEQ Regional Office 48 hours prior to taking annual soil samples at the permitted site. Samples will need to be taken within the same 45-day period each year, or by an approved sampling plan and analyzed within 30 days of procurement.

The permittee must monitor the soil-sludge mixture for the site as follows using soil sampling requirements described in 30 TAC §312.12(b)(1)(I) and (J). Analytical results must be provided on a dry weight basis. The Soil Sampling and Analysis plan shall be provided to the analytical laboratory prior to sample analysis.

No.	PARAMETER	NOTE	FREQUENCY	SAMPLE DEPTH	
				0" - 6"	6" - 24"
1.	Nitrate Nitrogen (NO_3-N, mg/kg)	1	1 per year	X	X
2.	Ammonium Nitrogen (NH_4-N, mg/kg)	1	1 per year	X	X
3.	Total Nitrogen (TKN, mg/kg)	2	1 per year	X	X
4.	Phosphorus (plant available, mg/kg)	3	1 per year	X	X
5.	Potassium (plant available, mg/kg)	3	1 per year	X	X
6.	Sodium (plant available, mg/kg)	3	1 per year	X	X
7.	Magnesium (plant available, mg/kg)	3	1 per year	X	X
8.	Calcium (plant available, mg/kg)	3	1 per year	X	X
9.	Electrical Conductivity	4	1 per year	X	X
10.	Soil Water pH (S.U.)	5	1 per year	X	X
11.	Total Arsenic (mg/kg)	6	1 per 5 years	X	N/A
12.	Total Cadmium (mg/kg)	6	1 per 5 years	X	N/A
13.	Total Chromium (mg/kg)	6	1 per 5 years	X	N/A
14.	Total Copper (mg/kg)	6	1 per 5 years	X	N/A
15.	Total Lead (mg/kg)	6	1 per 5 years	X	N/A
16.	Total Mercury (mg/kg)	6	1 per 5 years	X	N/A
17.	Total Molybdenum (mg/kg)	6	1 per 5 years	X	N/A
18.	Total Nickel (mg/kg)	6	1 per 5 years	X	N/A
19.	Total Selenium (mg/kg)	6	1 per 5 years	X	N/A
20.	Total Zinc (mg/kg)	6	1 per 5 years	X	N/A

1. Determined in a 1 N KCl soil extract (http://soiltesting.tamu.edu/webpages/swftlmethods1209.html).
2. Determined by Kjeldahl digestion or an equivalent accepted procedure. Methods that rely on Mercury as a catalyst are not acceptable.
3. Mehlich III extraction (yields plant-available concentrations) with inductively coupled plasma.
4. Electrical Conductivity (EC) - determined from extract of 2:1 (volume/volume) water/soil mixture and expressed in dS/m (same as mmho/cm).
5. Soil pH must be analyzed by the electrometric method in "Test Methods for Evaluating Solid Waste," EPA SW-846, 40 CFR 260.11; method 9045C - determined from extract of 2:1 (volume/volume) water/soil mixture.
6 Analysis for metals in soil must be performed according to methods outlined in "Test Methods for Evaluating Solid Waste," EPA SW-846; method 3050.

XIII. STANDARD PROVISIONS:

A. This permit is granted in accordance with the Texas Water Code, Health and Safety Code, and the rules and other Orders of the Commission and the laws of the State of Texas.

B. Unless specified otherwise, any noncompliance which may endanger human health or safety, or the environment shall be reported to the TCEQ. Report of such information must be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information must also be provided to the TCEQ Regional Office (MC Region 4) and to the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. The written submission must contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.

C. Any noncompliance other than that specified in the Standard Provision B, or any required information not submitted or submitted incorrectly, must be reported to the TCEQ Enforcement Division (MC 224) as promptly as possible.

D. Acceptance of this permit constitutes an acknowledgment and agreement that the permittee shall comply with all the terms, provisions, conditions, limitations and restrictions embodied in this permit and with the rules and other Orders of the Commission and the laws of the State of Texas. Agreement is a condition precedent to the granting of this permit.

E. Prior to any transfer of this permit, Commission approval must be obtained. The Commission must be notified, in writing, of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.

F. The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit will control.

G. The permittee is subject to the provisions of 30 TAC §305.125.

H. The permittee shall remit to the Commission annual fees per 30 TAC §312.9. Failure to pay the fees on time may result in revocation of this permit.

I. This permit holder does not have a vested right in the permit.

J. The permittee may not accept Class B sludge unless the sludge has been transported to the land application unit in a covered container with the covering firmly secured at the front and back.

XIV. SPECIAL PROVISIONS:

A. The maximum annual sludge application rate shall not exceed 12 dry tons per acre per year on fields S-1, S-4, and S-5; 11.82 dry tons/acre/year on fields S-6, S-7, and S-10; and 11.78 dry tons/acre/year on field S-8 and shall be land applied at a frequency proposed in the application. Agronomic loading rates shall be calculated on an annual basis to ensure that nutrient balances are not exceeded.

B. During times of land application of sludge, all buffer zones must be distinguished from each other by the use of flags, posting or fencing to ensure that both buffer areas and land application areas are separated. An elevation survey of the area, aerial photographs of the area, or other resources may be used to determine the outline of the buffered areas.

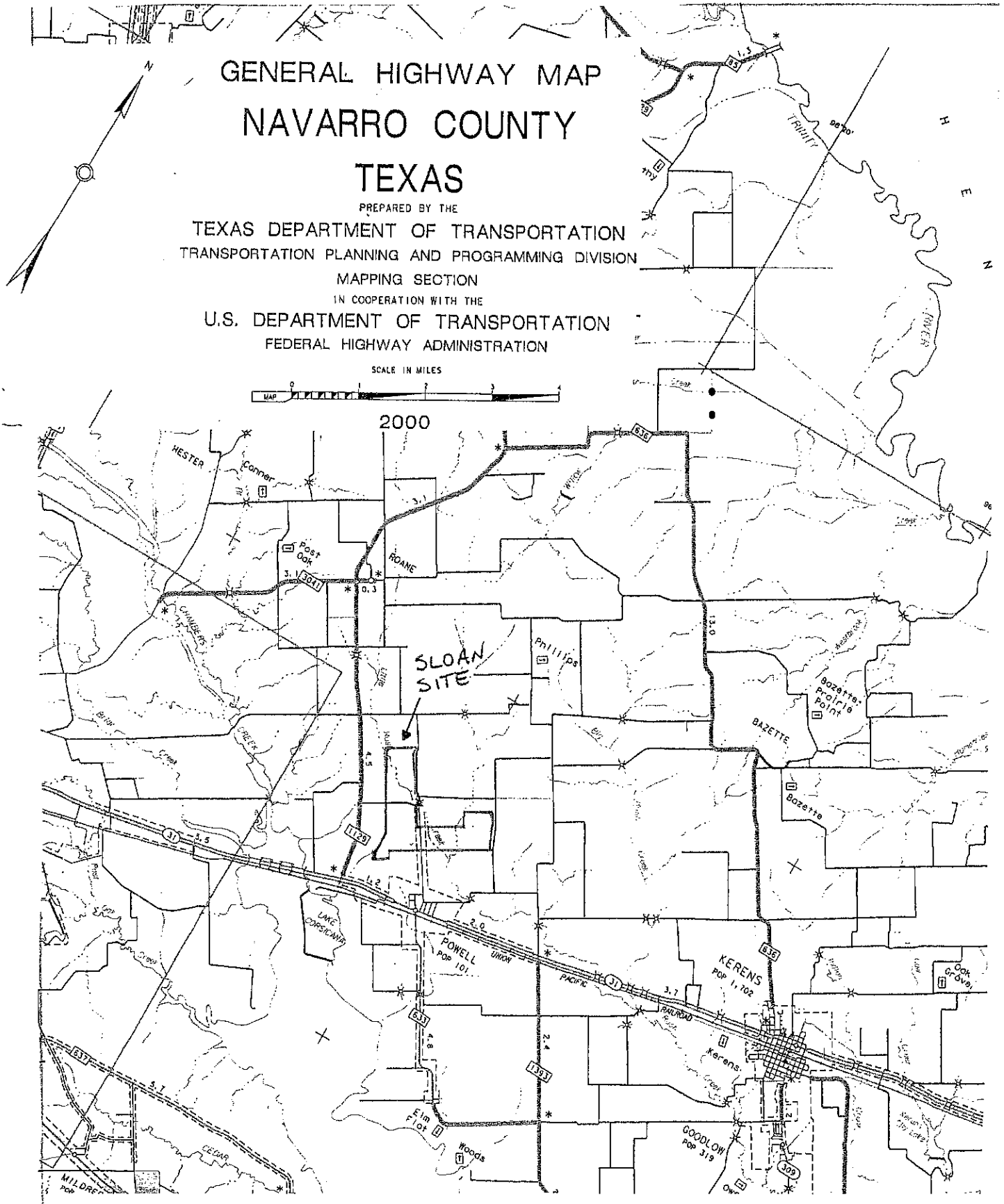
Application areas (Fields S-1, S-4, S-5, S-6, S-7, S-8, and S-10) must be distinguished from each other by the use of flags, posting or fencing to ensure that each field is separated.

C. The permittee should consider nutrient management practices appropriate for land application of sewage sludge and assess the potential risk for nitrogen and phosphorous to contribute to water quality impairment. Information and assistance on a certification program for Nutrient Management Specialists is available on the web at "http://nmp.tamu.edu".

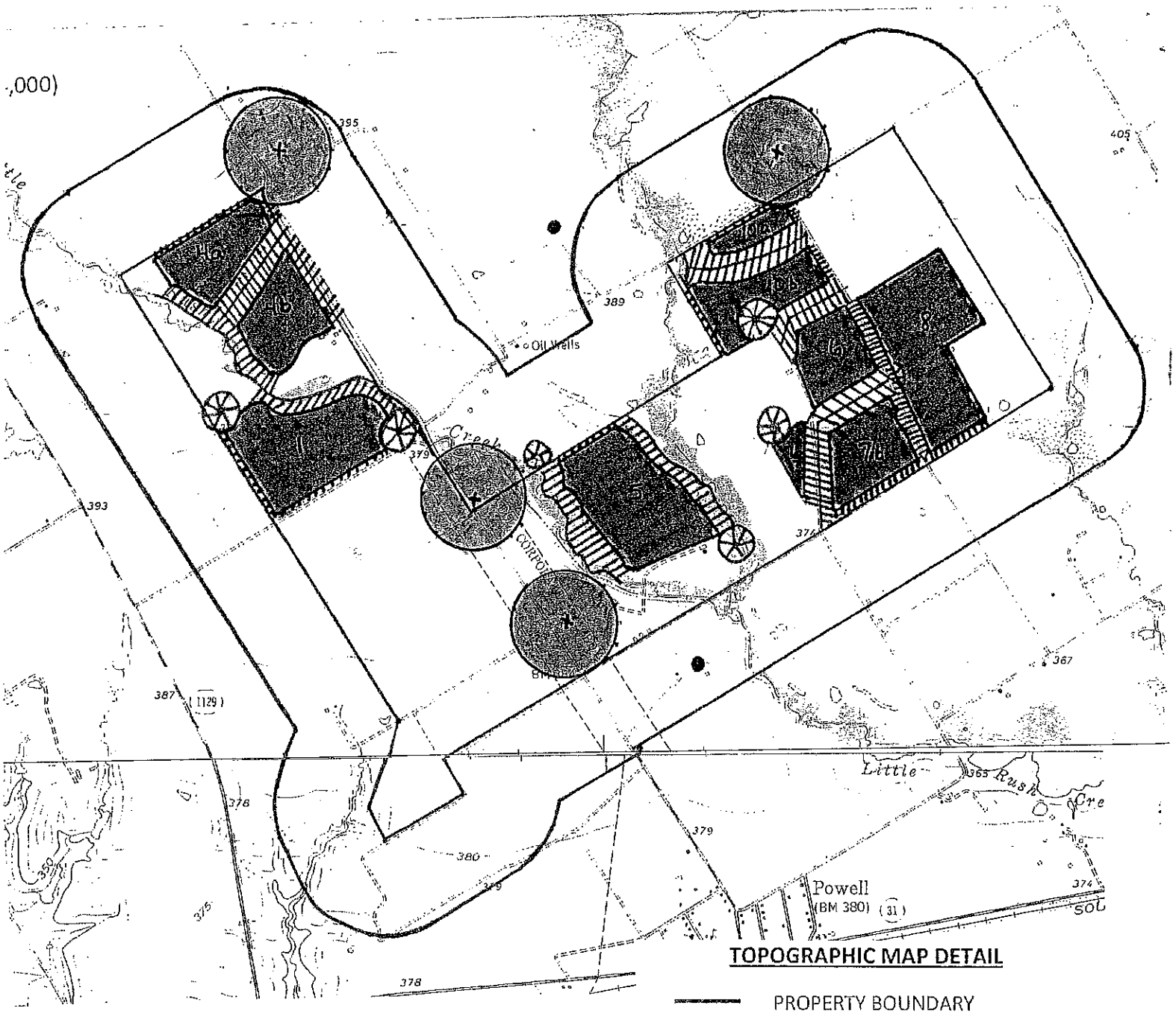
Nutrient management should be practiced within the context of the Natural Resources Conservation Service (NRCS) Code 590 Practice Standard which addresses the kind, source, placement, form, amount, timing and application method of nutrients and soil amendments. This is available on the web at "http://efotg.nrcs.usda.gov/references/public/TX/finalTX590_07_09_07.pdf". The 590 Standard should be conducted using the Phosphorus Index, a simple screening tool to rank vulnerability of fields as sources of phosphorus loss to surface runoff. Information on Phosphorus Index is available on the web at "http://efotg.nrcs.usda.gov/references/public/TX/TXTechNote15_rev.pdf". The annual analysis of extractable phosphorus in soil samples should be conducted using the Mehlich III extraction with inductively coupled plasma.

D. All sludge staging areas shall be located outside of buffers required by 30 TAC §312.44(c).

Attachment A



Attachment B



TOPOGRAPHIC MAP DETAIL

PROPERTY BOUNDARY

¼ MILE BOUNDARY

APPLICATION AREA & BOUNDARY

50' PROPERTY LINE BUFFER

200' PONDS/CREEKS/STREAMS BUFFER

750' RESIDENCE BUFFER

● Water Well Location **X** Residence

Powell Quadrangle

SCALE: 1" = 2,000' (1:24,000)

Attachment C

Annual Sludge Summary Report Form

Note 1: If your site has more than one land application field, please submit a separate form for each field.
Note 2: Please note, in addition to the summary form, you need to submit all information as required by 30 TAC 312.48.
Note 3: If you operate other registered/permitted sludge land application sites, a form should be submitted for each site.
Note 4: Also send one complete copy of your report and this form to the TCEQ regional office in your area.

For TCEQ Fiscal Year:	_____	Reporting period:	From September 1,	to August 31,	_____
Registration No:	_____		Date	_____	
Name of Registrant:	_____				
Mailing Address:	_____				
	_____				
Contact Person	Name			Telephone No:	

Field No. (if any): _____ **(Please submit a separate form for each field).**

1. Sewage Sludge:
   a. Land Applied: _____ dry tons/year
   b. Disposed Via Monofill: _____ dry tons/year
   c. Disposed Via MSW Landfill: _____ dry tons/year
2. Treated Domestic Septage - Land Applied: _____ gallons/year
   a. Method used to treat Domestic Septage: _____
3. Water Treatment Plant Sludge:
   a. Land Applied: _____ dry tons/year
   b. Dedicated Land Disposal: _____ dry tons/year
   c. Disposed Via monofill: _____ dry tons/year

Class A sludge land applied: dry tons / year
Acreage used for Sludge Application/disposal at this site: _____ acres

Site Vegetation (such as grass type etc) and number of cuttings: _____

Sewage Sludge only – Please provide information regarding the following 3 items:

1. Does any of the sludge you have generated or received NOT MEET the concentration limits for the metals listed in Table 3 of "30 TAC §312.43 (b)? Yes ☐ No ☐

2. Has your field/site reached or exceeded 90% of the cumulative metal loading rates for any metals as listed in Table 2 of 30 TAC §312.43 (b)"? Yes ☐ No ☐

3. Has sewage sludge been applied to the field/site after 90% of cumulative metal loading rates for any of the metals per Table 2 of "30 TAC §312.43 (b)" been reached? Yes ☐ No ☐

PLEASE MAIL THE COMPLETED ANNUAL REPORT TO:

Texas Commission on Environmental Quality
Municipal Permits Team (MC 148)
Wastewater Permitting Section
P.O. Box 13087
Austin, TX 78711-3087

Attachment D

Quarterly Sludge Summary Report Form

Note 1: If your site has more than one land application field, please submit a separate form for each field.
Note 2: Please place this sheet at the top of your Quarterly Sludge Report.
Note 3: If you have more than one permitted site, then fill-out this form for each one of those sites.
Note 4: Please send a copy of this sheet and all attachments to the local TCEQ regional office.

For TCEQ Quarter:	_____	Reporting period:	From September 1,	to August 31,	_____
Registration No:	_____		Date	_____	
Name of Registrant:					
Mailing Address:					
Contact Person	Name			Telephone No:	

Field No. (if any): _____ (Submit separate form for each field, if site has two or more fields).

Class B Sewage Sludge Land Applied:	dry tons /quarter
Treated Domestic Septage - Land Applied:	gallons / quarter
Method used to treat Domestic Septage:	
Water Treatment Plant Sludge - Land Applied:	dry tons /quarter
Class A sludge land applied:	dry tons /quarter

a. Acreage used for Sludge Application/disposal at this site

b. Site Vegetation (such as grass type etc) and # of cuttings

c. Does any of the sludge you have generated or received DOES NOT MEET concentration limits for any of the metals listed in Table 3 of "30 TAC §312.43 (b)? Yes ☐ No ☐

d. Site location Latitude: Longitude:

e. Site physical address:

Please attach the information regarding the following items (Sewage Sludge only):
* Please note the following information shall be provided in computer generated report format:
* Please place check mark before each item below to indicate you have attached that item with this report.

☐ 1. Metal concentration, pathogen analysis data and vector attraction certifications of sludge for each source.
☐ 2. Provide a list containing the name and permit number of each source of sludge.
☐ 3. Date of delivery of each load of sludge land applied.
☐ 4. Date of land application of each load of sludge.
☐ 5. The cumulative metal loading rates for any metals as listed in Table 2 of 30 TAC §312.43 (b)"?
☐ 6. The suggested agronomic rate for the class B sludge.

PLEASE MAIL THE COMPLETED ANNUAL REPORT TO:

Texas Commission on Environmental Quality
Municipal Permits Team (MC 148)
Wastewater Permitting Section
P.O. Box 13087
Austin, TX 78711-308

TECHNICAL SUMMARY AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

DESCRIPTION OF APPLICATION

Applicant:	Terra Renewal Services, Inc.
TCEQ Permit No.:	WQ0004989000
Regulated Activity:	Beneficial Land Application of Wastewater Treatment Plant (WWTP) Sewage Sludge and Water Treatment Plant (WTP) sludge
Type of Application:	Permit
Request:	New
Authority:	Texas Water Code §26.027; 30 Texas Administrative Code (TAC) Chapters 281, 305, 312, and Texas Health and Safety Code (THSC) §361.121; and Commission policies.

EXECUTIVE DIRECTOR RECOMMENDATION

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The proposed permit will expire five years from the date of issuance in accordance with 30 TAC Chapter 312, and THSC section 361.121.

REASON FOR PROJECT PROPOSED

Terra Renewal Services, Inc. has applied to the Texas Commission on Environmental Quality (TCEQ) for a new permit, Permit No. WQ0004989000, to authorize the beneficial land application of WWTP sewage sludge and WTP sludge at a rate not to exceed 12 dry tons per acre per year on Fields S-1, S-4, and S-5; 11.82 dry tons/acre/year on Fields S-6, S-7, and S-10; and 11.78 dry tons/acre/year on Field S-8.

PROJECT DESCRIPTION AND LOCATION

The sludge land application site will be located at 476 Brookshire Street, approximately one mile north of the intersection of Highway 31 and Brookshire Street, northwest of the Community of Powell in Navarro County, Texas 75153. The land application site will be located within the drainage basin of Trinity River Above Lake Livingston in Segment No. 0804 of the Trinity River Basin.

No discharge of pollutants into waters in the State is authorized by this permit.

PROPOSED PERMIT CONDITIONS

Sludge Provisions are included in the draft permit according to the requirements of 30 TAC Chapter 312, Sludge Use, Disposal and Transportation. The draft permit authorizes the land application of WWTP sewage sludge and WTP sludge for beneficial use on 320.9 acres.

SUMMARY OF CHANGES FROM APPLICATION

Sludge application rate was decreased from 15.9 to 12 dry tons per acre per year on Field S-1, from 18.39 to 12 dry tons per acre per year on Field S-4, and from 17.49 to 12 dry tons per acre per year on Field S-5 based on the limiting agronomic nutrient needs and protection of water resources.

SUMMARY OF CHANGES FROM EXISTING PERMIT

None. This is a new permit.

BASIS FOR PROPOSED DRAFT PERMIT

The following items were considered in developing the proposed permit draft:

1. Application submitted with letter dated April 13, 2012 and additional information submitted with letter dated May 25, 2012, August 20, 2012, August 28, 2012, September 11, 2012, and October 4, 2012.

2. Interoffice Memorandum from the TCEQ Regional Office (MC Region 4), Water Quality Assessment Team, Water Quality Division.

PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the Chief Clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the Chief Clerk instructs the applicant to place a copy of the application in a public place for review and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The Chief Clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application, and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent, along with the Executive Director's preliminary decision, as contained in the technical summary or fact sheet, to the Chief Clerk. At that time, Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant must place a copy of the Executive Director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment, and is not a contested case proceeding.

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's Response to Comments and Final Decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the Executive Director's response and decision, they can request a contested case hearing or file a request to reconsider the Executive Director's decision within 30 days after the notice is mailed.

The Executive Director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the Executive Director's Response to Comments and Final Decision is mailed. If a hearing request or request for reconsideration is filed, the Executive Director will not issue the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the Executive Director calls a public meeting or the Commission grants a contested case hearing as described above, the Commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the Commission will consider all public comments in making its decision and shall either adopt the Executive Director's response to public comments or prepare its own response.

For additional information about this application, contact Kellie Crouch-Elliott at (512) 239-2435.

K. Crouch-Elliott

Kellie Crouch-Elliott
Municipal Permits Team
Wastewater Permitting Section (MC 148)

11 Oct 2012
Date

The TCEQ is committed to accessibility.
To request a more accessible version of this report, please contact the TCEQ Help Desk at (512) 239-4357.

Compliance History Report

PENDING Compliance History Report for CN601590177, RN106388655, Rating Year 2012 which includes Compliance History (CH) components from September 1, 2007, through August 31, 2012.

Customer, Respondent, or Owner/Operator: CN601590177, Terra Renewal Services Inc **Classification:** HIGH **Rating:** 0.05

Regulated Entity: RN106388655, PAUL HARRISON SLOAN FARM **Classification:** UNCLASSIFIED **Rating:** -----

Complexity Points: 4 **Repeat Violator:** NO

CH Group: 14 - Other

Location: 476 BROOKSHIRE ST POWELL, TX 75153-8857, NAVARRO COUNTY

TCEQ Region: REGION 04 - DFW METROPLEX

ID Number(s):
SLUDGE PERMIT WQ0004989000

Compliance History Period: September 01, 2007 to August 31, 2012 **Rating Year:** 2012 **Rating Date:** 09/01/2012

Date Compliance History Report Prepared: September 27, 2012

Agency Decision Requiring Compliance History: Permit - Issuance, renewal, amendment, modification, denial, suspension, or revocation of a permit.

Component Period Selected: April 13, 2007 to September 27, 2012

TCEQ Staff Member to Contact for Additional Information Regarding This Compliance History.

Name: KCE **Phone:** (512) 239-1000

Site and Owner/Operator History:

1) Has the site been in existence and/or operation for the full five year compliance period?	NO
2) Has there been a (known) change in ownership/operator of the site during the compliance period?	NO
3) If YES for #2, who is the current owner/operator?	N/A
4) If YES for #2, who was/were the prior owner(s)/operator(s)?	N/A
5) If **YES**, when did the change(s) in owner or operator occur?	N/A

Components (Multimedia) for the Site Are Listed in Sections A - J

A. Final Orders, court judgments, and consent decrees:
N/A

B. Criminal convictions:
N/A

C. Chronic excessive emissions events:
N/A

D. The approval dates of investigations (CCEDS Inv. Track. No.):
N/A

E. Written notices of violations (NOV) (CCEDS Inv. Track. No.):
A notice of violation represents a written allegation of a violation of a specific regulatory requirement from the commission to a regulated entity. A notice of violation is not a final enforcement action, nor proof that a violation has actually occurred.

N/A

F. Environmental audits:

N/A

G. Type of environmental management systems (EMSs):
N/A

H. Voluntary on-site compliance assessment dates:
N/A

I. Participation in a voluntary pollution reduction program:
N/A

J. Early compliance:
N/A

Sites Outside of Texas:
N/A