Spray Irrigation Permit

DEN Number: 359042-02
Effective Date: December 26, 2012
Amended Date: April 2, 2013
Expiration Date: December 25, 2017

Issued by: Ground Water Discharges Section
Division of Water
Department of Natural Resources
and Environmental Control
89 Kings Highway
Dover Delaware 19901
302-739-9948

AUTHORIZATION TO OPERATE AND MAINTAIN

UNDER THE LAWS OF THE

STATE OF DELAWARE

PERMITTEE: Cedar Village, LLC
720 Rehoboth Ave
PO Box 1363
Rehoboth Beach DE 19971

FACILITY: Cedar Village Mobile Home Park Wastewater Treatment Facility

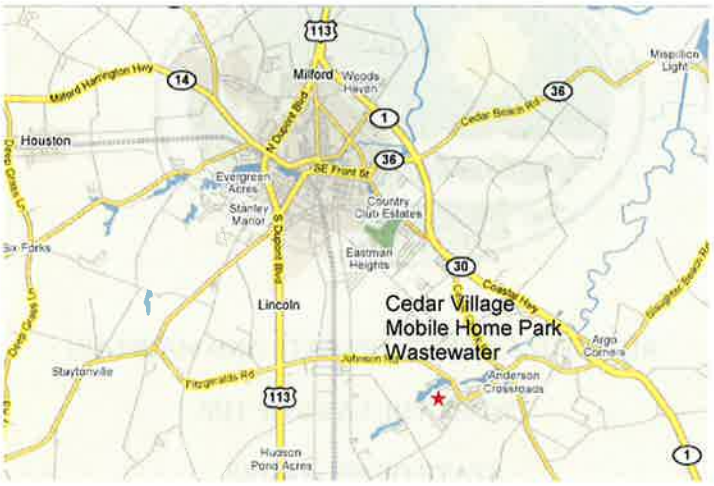
1. Pursuant to the provisions of 7 Del. C. §6003, **Cedar Village, LLC** is herein authorized to operate and maintain the facility known as **Cedar Village Mobile Home Park Wastewater Treatment Facility** located in Lincoln, Sussex County, Delaware to treat domestic wastewater from the Cedar Village Mobile Home Park and to spray irrigate the treated effluent onto the spray field located on the northwest corner of the Cedar Village Mobile Home Park, 1/4 mile north of County Road 225 and ½ mile east of County Road 38, Sussex County Delaware.

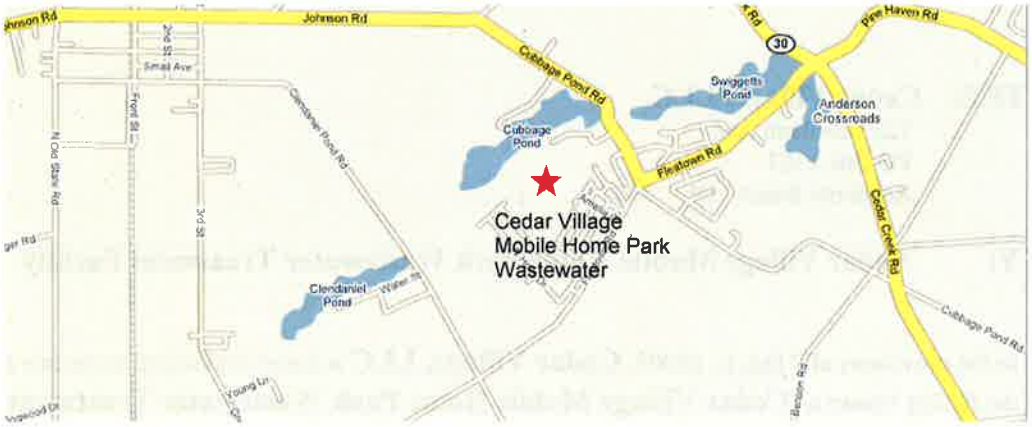
2. The effluent limitations, monitoring requirements and other permit conditions are set forth in Part I, II and III hereof.

John S Hayes FOR
Ronald E. Graeber, Program Manager
Ground Water Discharges Section
Division of Water
Department of Natural Resources
and Environmental Control

APRIL 2, 2013
Date Signed

LOCATION MAP





Cedar Village Mobile Home Park
Wastewater Treatment Facility

Legend

Monitoring Wells
Spray Field

N

0 55 110 220 330 440
Feet

PART I

A. DOCUMENTATION

The slow rate land treatment operation shall be conducted in accordance with the following documents:

1. The State of Delaware, Department of Natural Resources and Environmental Control's Guidance and Regulations Governing the Land Treatment of Wastes, (hereafter called Regulations).
2. The Design Development Report (DDR) submitted by Tatman & Lee on May 31, 1989.
3. Plans and Specifications for the treatment facility submitted by Tatman & Lee on April 26, 1991.
4. A letter dated May 8, 1991 from Nick Del Campo to Ronald E. Graeber describing lagoon monitoring and management procedures.
5. A spray irrigation permit application dated February 10, 1993.
6. Plans and Specifications for the additional treatment lagoon submitted by Byron H, Jefferson on April 1, 1996.
7. A letter dated May 31, 1996 from Bruce B. Bagley to Byron H. Jefferson requesting more information and design documentation on the proposed treatment lagoon.
8. A letter dated November 22, 1996 from Byron H. Jefferson to Bruce B. Bagley detailing final plans and specifications for the new treatment lagoon and spray field expansion.
9. Spray Irrigation Permit Application dated October 18, 2012.
10. Any other correspondence, documentation and/or reports related to the Cedar Village Mobile Home Park Wastewater Treatment Facility received and approved by the Ground Water Discharges Section and/or sent by the Ground Water Discharges Section.

B. GENERAL DESCRIPTION OF OPERATION/DISCHARGES

The wastewater treatment facility treats domestic wastewater collected from the Cedar Village Mobile Home Park. The maximum number of lots permitted to be connected to the central sewer system shall be 230 lots.

The treatment facility consists of two partially mix aerated lagoons; one 3.8 million gallon facultative polishing/storage lagoon; and one 5,000 gallon chlorine contact chamber. The treated effluent is discharged to a 7.61 acre spray irrigation field via a solid set spray irrigation system.

C. INFLUENT LIMITATIONS

The average monthly quantity of influent to the wastewater treatment facility shall not exceed 60,000 gallons per day in any calendar month.

Design Treatment Capacity: 60,000 gallons per day

D. SPRAYED EFFLUENT LIMITATIONS

During the period beginning on the effective date and lasting through the expiration date of this permit, the permittee is authorized to discharge to the spray irrigation field(s) identified on page 1 of this permit the quantity and quality of effluent specified below:

1. The average monthly quantity of effluent discharged from the wastewater treatment facility to the spray fields shall not exceed 75,000 gallons per day (MGD) in any calendar month.

   Design Disposal Capacity: 75,000 gallons per day

2. The average weekly quantity of effluent discharged to any portion of the spray irrigation field shall not exceed 2.5 inches per acre.

3. The quantity of effluent discharged to any portion of the spray irrigation field shall not exceed 0.25 inches/acre/hour.

4. There shall be a minimum rest period of twenty-four (24) hours between applications on each section of the spray field.

5. The pH of the effluent shall not be less than 5.5 standard units nor greater than 9.0 standard units.

6. The total residual chlorine concentration shall not be less than 1.0 mg/L nor more than 4.0 mg/L.

7. The Chloride concentration of the effluent shall not exceed 250 mg/L on an average annual basis.

8. The Sodium concentration of the effluent shall not exceed 210 mg/L on an average annual basis.

9. The total amount of nitrogen that may be applied to each spray field acre shall not exceed 300 lbs/year. This amount includes supplemental fertilizers, the nitrogen supplied from the effluent, and any other source. The limitation of total nitrogen that can be applied to each acre may be adjusted by the Ground Water Discharges Section if it can be shown through subsequent analysis of the crop removed that the total nitrogen removed with the crop is equal to the amount applied from the effluent and additional fertilizer applications. Supplemental additions of commercial fertilizers shall be limited to amounts necessary to meet crop needs in accordance with the written recommendations of the University of Delaware Cooperative Extension Service for the specified crop and anticipated yield.

10. The discharge to the spray irrigation fields shall be free from material such as floating solids, sludge deposits, debris, scum, oil and grease in quantities that would be deleterious to the proper operation and maintenance of the spray fields.

11. Because the facility has been designed for Restricted Public Access, the effluent must meet the following limits:

Parameter	Daily Permissible Average Concentration
BOD_5	50.0 mg/L
Total Suspended Solids	90.0 mg/L
Fecal Coliform	200 colonies/100 mL

E. BUFFER REQUIREMENTS

1. A buffer zone of at least 150 feet shall be maintained between the edge of the wetted field area and all highways, individual lots and property lines.

2. A buffer zone of 100 feet shall be maintained between the wetted edge of the spray field and the edge of any wetlands or any perennial lake or stream.

F. GROUND WATER REQUIREMENTS

Operation of the wastewater treatment facility and spray irrigation system shall not cause the quality of Delaware's ground water resources to be in violation of applicable Federal or State Drinking Water Standards on an average annual basis.

G. MONITORING REQUIREMENTS

Permittee shall initiate periodic reporting required under Part I.I.2 upon initiation of irrigation activities for all of the following monitoring requirements.

During the period beginning on the effective date and lasting through the expiration date of this permit, the permittee is authorized to discharge to spray irrigation fields identified on page 1 of this permit. Such discharge shall be monitored by the permittee as specified below:

1. INFLUENT MONITORING REQUIREMENTS

Parameter	Sample Location	Unit Measurement	Monitoring Frequency	Sample Type
BOD_5	Influent	mg/L	Monthly	Composite
Influent Flow	Plant Inlet	Gal/day	Continuous	Recorded/ Totalized
pH	Influent	S.U.	Monthly	In-situ
TSS	Influent	mg/L	Monthly	Composite

2. SPRAYED EFFLUENT MONITORING REQUIREMENTS

Sprayed Effluent Monitoring Samples shall be taken after the chlorine chamber. The location for pH monitoring and all composite sampling shall be the discharge side of the discharge weir of the chlorine contact chamber.

Parameter	**Unit Measurement**	**Monitoring Frequency**	**Sample Type**
Ammonia Nitrogen	mg/L	Monthly	Composite
BOD_5	mg/L	Twice per month	Composite
Cadmium	mg/L	Annually	Composite
Chloride	mg/L	Quarterly	Composite
Copper	mg/L	Annually	Composite
Effluent Flow	Gal/day	Continuous	Recorded / Totalized
Fecal Coliform	Col/100 ml	Twice per month	Grab
Lead	mg/L	Annually	Composite
Nickel	mg/L	Annually	Composite
Nitrate + Nitrite Nitrogen	mg/L	Monthly	Composite
Organic Nitrogen	mg/L	Monthly	Calculation
pH	S.U.	Daily	In-situ
Potassium	mg/L	Quarterly	Composite
Sodium	mg/L	Quarterly	Composite
Total Nitrogen	mg/L	Monthly	Composite
Total Phosphorus	mg/L	Monthly	Composite
Total Residual Chlorine	mg/L	Daily	Grab
Total Suspended Solids	mg/L	Twice per month	Composite
Zinc	mg/L	Annually	Composite

3. GROUND WATER MONITORING REQUIREMENTS

Ground Water Monitoring Samples shall be taken at each monitoring well in accordance with procedures approved by the Department and listed in the State of Delaware, Field Manual for Groundwater Sampling (Custer, 1988).

Ground water monitoring results for each monitoring well shall be reported using the State of Delaware Well Identification Tag Number that is required on all wells in accordance with the Delaware Regulations Governing the Construction and Use of Wells, Section 10, A.

After notice and opportunity for a hearing the Department may modify the list of parameters to be monitored or the frequency monitoring by the permittee based upon observations of ground water quality trends in the area.

Parameter	Unit Measurement	Measurement Frequency	Sample Type
Ammonia as Nitrogen	mg/L	Quarterly	Grab
Chloride	mg/L	Quarterly	Grab
Depth to Water	hundredths of a foot	Monthly	In-Situ
Dissolved Oxygen	mg/L	Quarterly	Field Test
Fecal Coliform	Col/100mL	Quarterly	Grab
Nitrate + Nitrite as Nitrogen	mg/L	Quarterly	Grab
pH	S.U.	Quarterly	Field Test
Sodium	mg/L	Quarterly	Grab
Specific Conductance	µS/cm	Quarterly	Field Test
Temperature	°C	Quarterly	Field Test
Total Dissolved Solids	mg/L	Quarterly	Grab
Total Nitrogen	mg/L	Quarterly	Grab
Total Phosphorus	mg/L	Quarterly	Grab

4. SOIL MONITORING REQUIREMENTS

Composite soil samples representing each soil series within the wetted spray field should be taken within the upper 12 inches of soil. A minimum of one composite sample for every 20 acres of each soil series is required.

Soil sample locations shall be plotted on a scaled drawing and labeled consistent with the sample nomenclature. Each field must also be identified so that sample results may be tracked and properly assessed for field life limiting factors.

Parameter	Unit Measurement	Measurement Frequency	Sample Type
pH	S.U.	Annually	Soil Composite
Organic Matter	%	Annually	Soil Composite
Phosphorus (as P2O5)	mg/kg	Annually	Soil Composite
Potassium	mg/kg	Annually	Soil Composite
Sodium Adsorption Ratio	meq/100g	Annually	Soil Composite
Cadmium	mg/kg	Once per 4 years	Soil Composite
Nickel	mg/kg	Once per 4 years	Soil Composite
Lead	mg/kg	Once per 4 years	Soil Composite
Zinc	mg/kg	Once per 4 years	Soil Composite
Copper	mg/kg	Once per 4 years	Soil Composite
Cation Exchange Capacity	meq/100g	*Only if soil pH changes significantly	Soil Composite
Phosphorus Adsorption	meq/100g	**Only if soil phosphorus levels become excessive for plant growth	Soil Composite
Percent Base Saturation	%	*Only if soil pH changes significantly	Soil Composite

*A significant change in soil pH is defined as a change of one or more standard units from the original value established in the Design Development Report.

** Excessive levels of soil phosphorus are defined by the Delaware Nutrient Management Commission. Soil phosphorus levels must be tested in accordance with the University of Delaware soil testing methods. If the soil phosphorus levels become excessive, the permittee shall perform a Phosphorus Site Index (PSI) study of the site. The results of the PSI study must be submitted to the Ground Water Discharges Section within 30 days of completion of the study. Based on the results of the PSI study, the Ground Water Discharges Section may require the permittee to submit a plan for Ground Water Discharges Section review and approval detailing steps the permittee will take to reduce the phosphorus loading rates at the site to crop uptake levels.

5. OPERATIONS MONITORING REQUIREMENTS

Parameter	Sample Location	Unit Measurement	Monitoring Frequency	Sample Type
Lagoon Levels	Lagoons	Feet	Weekly	In-situ
pH	Various*	S.U.	3 times per week	In-situ
DO	Various*	mg/L	3 times per week	In-situ
Temperature	Various*	°C	3 times per week	In-situ

Results of operations monitoring tests shall be maintained pursuant to Part I.I.5.

*Various sample locations will be established after construction of the facility by the Ground Water Discharge Section staff and facility operators.

H. Schedule of Compliance

1. The permittee shall submit information necessary for proper operation of the spray irrigation system in accordance with the following schedule:

   None

2. The permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance by specified date. In the event of noncompliance, the notice shall include the cause of noncompliance, any remedial action taken, and the probability of meeting the next scheduled requirement.

I. Monitoring and Reporting

1. Representative Sampling

   Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

   The permittee shall automatically resample the wastewater and submit to the Department additional analyses if there has been significant increase (greater than 25%) in the characterization of any one parameter of the effluent wastewater as established in the Design Development Report. The permittee shall then be required to recharacterize the wastewater in order to determine if any change in the land limiting constituent has occurred. Any significant change in wastewater characteristics that affects the land limiting constituent shall be included in a revised Design Development Report which shall be submitted to the Department. After a review of these results, the Department may invoke the provisions of Part II.B.6 of this permit.

2. Reporting

   Monitoring results obtained during the previous one month/quarter shall be summarized for each month/quarter and reported on an approved Spray Effluent Monitoring Report Form postmarked no later than the 28th day of the month following the completed reporting period. Signed copies of these, and all other reports required herein, shall be submitted to the Department at the following address:

   Ground Water Discharges Section
   Division of Water
   Department of Natural Resources and Environmental Control
   20653 Dupont Blvd, Unit 5
   Georgetown DE 19947
   Telephone: (302) 856-4561 Office
   (302) 542-9735 Cell

   a. Additional Monitoring by Permittee

      If the permittee monitors any parameter at the location(s) designated herein more frequently than required by this permit, using approved analytical methods specified herein, the results of such monitoring shall be included in the calculation and reporting of the values required in the appropriate Monitoring Report Form. Such increased frequency shall also be indicated.

b. The permittee shall submit to the Department an annual operation report on or before February 1 of each year. The annual operation report shall summarize operational and maintenance activities at the facility along with management and administration of the facility and shall include the following:

i. The annual volume of wastewater spray irrigated on each field along with the total nitrogen and phosphorus loading applied to each irrigation field in pounds per acre per field as well as total pounds removed;

ii. A chemical analysis of soils from each field for the constituents identified in Part I.G.4 of this permit;

iii. Identification of those portions of the field(s) which have been prone to ponding, pooling or runoff; and

iv. The vegetative management practices followed during the previous year and anticipated for the coming year.

v. The type and amount of crop removed under spray irrigation.

vi. The number of units connected to the wastewater treatment system.

vii. Documentation verifying the calibration of influent and effluent flow meters.

c. Compliance Monitoring Report

At least 180 days before the expiration date of this permit, the permittee must submit a five year Compliance Monitoring Report (CMR) with the application for renewal. The CMR must be in accordance with current Department Guidelines. CMR requirements are currently outlined in the November 13, 2008 amendment to the *Wastewater Treatment and Disposal System Siting, Design, and Operation: Supplemental Guidance to the Existing* Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems *and the* Regulations Governing the Land Treatment of Wastes. Please check with the Department prior to completing the CMR for the most current Guidelines regarding the CMR.

3. Test Procedures

Test procedures for analysis of pollutants shall conform to the applicable test procedures identified in 40 C.F.R., Part 136 or the most recently adopted copy of Standard Methods unless otherwise specified in this permit.

Soil chemical testing should be in accordance with Methods of Soil Analysis published by the American Society of Agronomy, Madison, Wisconsin.

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date and time of sampling and/or measurement;

b. The person(s) who performed the sampling and/or measurement;

c. The date(s) the analyses were performed and the time the analyses were begun;

d. The person(s) who performed the analyses; and

e. The results of each analysis.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed, calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation shall be retained for five years. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Department.

6. Quality Assurance Practices

The permittee is required to show the validity of all effluent monitoring and ground water monitoring data by requiring its laboratory to adhere to the following minimum quality assurance practice:

a. Duplicate[(1)] and spiked[(2)] samples must be run for each effluent monitoring and ground water monitoring constituent in the permit on 5% of the samples, or at least on one sample per quarter, whichever is greater. If the analysis frequency is less than one sample per quarter, duplicate and/or spiked samples must be run for each analysis;

b. For spiked samples, a known amount of each constituent is to be added to the discharge sample. The amount of constituent added should be approximately the same amount present in the unspiked sample, or must be approximately that stated as maximum or average in the discharge permit;

c. The data resulting from a and b shall be summarized in the annual report submitted pursuant to Part I.I.2.b of this permit in terms of precision; percent recovery; number of duplicate and spiked samples run; date and laboratory log number of samples run, and name of analyst;

d. Precision shall be calculated by the standard deviation (s) formula $s = (\Sigma d^2/k)^{1/2}$, where d is the difference between duplicate results, and k is the number of duplicate pairs used in the calculations;

e. Percent recovery (R) shall be reported on the basis of the formula $R = 100\ (F-I)/A$, where F is the analytical result of the spiked sample, I is the result before spiking of the sample, and A is the amount of constituent added to the sample;

f. The percent recovery in Quality Assurance Practice e above shall be summarized yearly in terms of mean recovery and standard deviation from the mean. The formula, $s = [\Sigma(x_{mean}-x)^2/(n-1)]^{(1/2)}$, where s is the standard deviation around the mean x-x, x is an individual recovery value, and n is the number of data points, shall be applied;

g. The permitee or contract laboratory is required to annually analyze an external quality control reference sample for each pollutant. These are available through the EPA regional quality assurance coordinator. Results shall be included in the annual report, Quality Assurance Practice c above;

h. The permittee and/or contract laboratory is required to maintain an up-to-date and continuous record of the method used, any deviations from the method or options employed in the reference method, reagent standardization, equipment calibration and the data obtained in Quality Assurance Practices a, b and f above; and

i. If a contract laboratory is utilized, the permittee shall report the name and address of the laboratory and the parameters analyzed together with the monitoring data required.

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(1) Duplicate samples are not required for the following parameters: color, temperature, and turbidity.

(2) Spike samples are not required for the following parameters: Acidity, Alkalinity, Bacteriological, Benzidine, Chlorine, Color, Dissolved Oxygen, Hardness, pH, Oil & Grease, Radiological, Residues, Temperature, Turbidity, BOD_5 and Total Suspended Solids.

J. DEFINITIONS

1. Bypass - The intentional diversion of wastes from any portion of a treatment facility.

2. Composite sample - A combination of individual samples obtained at intervals over a time period. Either the volume of each individual sample is proportional to discharge flow rates or the sampling interval (for constant volume samples) is proportional to the flow rates over the time period used to produce the composite. For a 8-24 hour discharge, a minimum of 24 individual grab samples shall be collected and combined to constitute a composite sample. For intermittent discharges of 4-8 hours duration, a minimum of 12 grab samples shall be collected and combined to constitute the composite sample for the discharge. For intermittent discharges of less than 4 hours, a minimum of individual grab samples shall be collected and combined to constitute the composite samples collected equal to the duration of the discharge in hours times 3 but not less than 3 samples.

3. Grab sample - An individual sample collected in less than 15 minutes.

4. In-situ – Data is collected in stream or in place without interrupting the normal flow process.

5. Field Test – A test or measurement performed in the field using a calibrated water-quality instrument. Such tests include, but are not limited to, pH, specific conductance, and temperature. For ground water sampling purposes, these parameters must be monitored during well purging and allowed to stabilize prior to the collection of samples for laboratory analysis.

6. Daily average concentration - The daily average concentration shall be determined by the summation of all the measured daily concentrations obtained from composite samples divided by the number of days during the calendar month when the measurements were made.

7. Daily maximum concentration - The concentration of a pollutant in terms of milligrams per liter which represents the value obtained from a composite sample of an effluent over a 24 hour period.

8. Land Treatment - A technology for the intimate mixing or dispersion of wastes into the upper zone of the plant-soil system with the objective of microbial stabilization, immobilization, selective dispersion, or crop recovery leading to an environmentally acceptable assimilation of the waste.

9. Spray Irrigation - the controlled application of treated wastewater to a vegetated soil surface.

10. Soil composite - At least ten individual cores which have been mixed together to form one sample. The cores shall be collected in a manner such that the final sample is representative of the soils found on the field.

11. Treatment - A process which alters, modifies, or changes the biological, physical, or chemical characteristics of sludge or liquid waste.

PART II

A. MANAGEMENT REQUIREMENTS

1. Spray Irrigation of Wastewater

An operator log must be kept on site at all times. Each spray system section shall be numbered and referred to by number in the operator log. All records and reports shall also be kept on site at all times. This log shall, at a minimum, include the following:

a. Time spent at the treatment facility on any date;

b. Details of the operation and maintenance performed on the wastewater treatment and spray irrigation facility on any date;

c. The volume of wastewater sprayed on each field on any date and the acreage over which the wastewater was sprayed;

d. Identification of those portions of the field(s) that were ponding on any date;

e. A record of any deviations from the operation and maintenance manual;

f. General daily weather conditions;

g. A site map showing the spray area with each center pivot or solid set spray zone numbered;

h. A record of all actions taken to correct violations of the Delaware Environmental Protection Act and the Department's regulations; and

i. A record of all site management activities undertaken such as planting, reseeding, harvesting of crops, commercial fertilizer applications and any other chemical additions or applications.

2. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be submitted to the Ground Water Discharges Section for approval in accordance with Part II. B. Subsection 203 (4) (b) [Major Modifications] of the Regulations. The procedure for making major modifications shall be the same as that used for a new permit under the regulations.

Any other activity which would constitute cause for modification or revocation and reissuance of this permit as described in Part II.B.6 of this permit shall be reported to the Ground Water Discharges Section. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

3. Non-compliance Notification

The permittee shall report to the Department's Enforcement Section at (800) 662-8802 any unpermitted release or discharge of any contaminant into the air, or a pollutant, including petroleum substances, into surface waters, ground water, or onto land as soon as the permittee has knowledge of the release or discharge.

The permittee shall report to the Ground Water Discharges Section orally within 24 hours from the time the permittee became aware of any noncompliance that may endanger the public health or the environment by contacting the Department at the telephone numbers cited in Part I.I.2 of this permit.

If for any reason the permittee does not comply with, or will be unable to comply with, any effluent limitations or other conditions specified in this permit, the permittee shall provide the Department with the following information in writing within 5 days of becoming aware of any actual or potential non-compliance:

a. A description and cause of the non-compliance with any limitation or condition;

b. The period of non-compliance including exact dates and times; or, if not yet corrected, the anticipated time the non-compliance is expected to continue; and

c. The steps being taken or planned to reduce, eliminate and/or prevent recurrence of the non-compliant condition.

4. Facilities Operation

The permittee shall at all times properly maintain and operate as efficiently as possible all structures, systems and equipment for treatment control and monitoring which are used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes, but is not limited to, effective performance based on designed facility removals, adequate funding, effective management, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures.

5. Facility and Operation Changes

The permittee shall submit a written report to the Department for review and approval, of any changes to the facility or operation of the system within the following time periods:

a. Thirty days before any planned activity, physical alteration to the permitted facility or addition to the permitted facility if that activity, alteration or addition would result in a change in information that was previously submitted to the Department;

b. Thirty days before any anticipated change which would result in noncompliance with any permit condition or the regulations; or

c. Immediately after the permittee becomes aware of relevant facts omitted from, or incorrect information submitted in, a permit application or report to the Department. Omitted facts or corrected information shall be submitted as soon as possible and will be included as part of the report.

6. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the state resulting from operation under this permit. Such steps shall include, but not be limited to, accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or reasonable mitigation of such impacts.

7. Bypassing

Any bypass of treatment facilities (including pretreatment, storage, distribution and land application facilities) necessary to maintain compliance with the terms and conditions of this permit is prohibited unless:

a. The bypass is unavoidable to prevent loss of life, personal injury or severe property damage;

b. There are no alternatives;

c. The Department is orally notified within 24 hours after such bypass; and, a written submission regarding the bypass is submitted within five days of the permittee's becoming aware of the bypass. Where the need for a bypass is known (or should have been known) in advance, this notification shall be submitted to the Department for approval at least ten days prior or as soon as possible before the date of bypass; and

d. The bypass is allowed under conditions determined by the Department to be necessary to minimize adverse effects as provided under 7 Del. C., Chapter 60, §6011.

8. Initiation of Facility Operations Notification

If this permit involves the construction of new facilities or modifications to existing facilities, the permittee shall notify the Department at least fifteen days prior to the intent to initiate operations. Permittee must schedule to have Ground Water Discharge Section staff present at the initiation of operations to perform a start up inspection. If the results of the inspection are satisfactory, written authorization will be issued for continued operation. In the event the inspection results are not satisfactory, a letter of deficiency will be issued detailing remedial action necessary. After remedial action has been completed, the permittee must schedule the Ground Water Discharges Section to perform another start up inspection. The permittee must obtain written authorization from the Ground Water Discharges Section prior to commencing operations.

9. Removed Substances

Solids, sludges, filter backwash or other pollutants removed in the course of treatment or control of wastewater shall be disposed of in a manner such as to prevent any pollutant from entering the surface water or ground water and to comply with applicable federal or state laws and regulations.

10. Power Failures

An alternative power source, which is sufficient to operate the wastewater treatment and disposal facilities, shall be available. If such alternative power source is not available, the permittee shall halt, reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater facilities.

B. RESPONSIBILITIES

1. Reapplication for a Permit

At least 180 days before the expiration date of this permit, the permittee shall submit a new application for a permit or notify the Department of the intent to cease discharging by the expiration date. In the event that a timely and complete application has been submitted as determined by the Department, and the Department is unable, through no fault of the permittee, to issue a new permit before the expiration date of this permit, the terms and conditions of this permit are automatically continued and remain fully effective and enforceable until a decision is made on the new application.

2. Submission of As-Built Plans

Within 90 days following the completion of construction of new facilities or modifications to existing facilities, the permittee shall submit to the Department a set of as-built plans of the facility bearing the seal and signature of a Professional Engineer registered in the State of Delaware. As-built drawings shall incorporate the new contours, treatment system, and spray irrigation system, along with the elevations of monitoring wells at the top of the casing and at the ground surface, and local topography tied to a common bench mark. The location and screen depth must also be provided for the monitoring wells.

3. Right of Entry

The permittee shall allow, at reasonable times, the Secretary of the Department of Natural Resources and Environmental Control, or his authorized representatives, upon the presentation of credentials and such other documents as may be required by law:

a. To enter upon the permittee's premises where the spray irrigation facility is located or where any records are required to be kept under the terms and conditions of this permit;

b. To have access to and copy any records required to be kept under the terms and conditions of this permit;

c. To inspect any facility, equipment, monitoring method, monitoring equipment, practice or operation permitted or required under this permit; and

d. To sample or monitor for the purpose of assuring permit compliance with any condition of this permit, the regulations or 7 Del C., Chapter 60.

4. Transfer of Ownership and Control

No person shall transfer a permit from one location to another, or from one piece of equipment to another. No person shall transfer a permit from one person to another unless 30 days written notice is given to the Department, indicating the transfer is agreeable to both persons, and approval of such transfer is obtained in writing from the Department, and any conditions of the transfer approved by the Department are complied with by the transferor and the transferee.

The notice to the Department shall contain a written agreement between the transferor and the transferee, indicating the specific date of proposed transfer of permit coverage and acknowledging responsibilities of current and new permittees for compliance with and liability for the terms and conditions of this permit. The notice shall be signed by both the transferor and the transferee.

5. Availability of Reports

All reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department of Natural Resources and Environmental Control. Monitoring data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in 7 Del. C., §6013.

6. Permit Modification, Revocation and Termination

After notice and opportunity for a hearing, this permit may be modified, terminated, or revoked in whole or in part during its term for cause including, but not limited to, any of the following:

a. Violation of any terms of conditions of this permit, the regulations, 7 Del. C., Chapter 60 or failure to pay applicable Department fees;

b. Obtaining this permit by misrepresentation or failure to fully disclose all relevant facts;

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

d. If the Department finds that the health, safety or welfare of the public requires emergency action, the Department shall incorporate findings in support of such action in a written notice of emergency revocation issued to the permittee. Emergency revocation shall be effective upon receipt by the permittee. Thereafter, if requested by the permittee in writing, the Department shall provide the permittee a revocation hearing and prior notice thereof. Such hearings shall be conducted in accordance with 7 Del. C., Chapter 60.

7. State Laws

This permit shall not be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation.

8. Property Rights

The issuance of this permit does not convey any property rights of either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Severability

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

PART III

A. GENERAL CONDITIONS

1. The spray irrigation fields shall be managed to assure at a minimum that:

   a. Spray irrigation of wastewater shall not occur on barren fields.

   b. The spray fields shall be maintained in such a manner as to prevent wastewater pooling and/or discharge of wastewater to any surface waters. Should pooled areas become evident, no spraying shall be conducted in those areas until saturated conditions no longer exist.

   c. No aerosols or nuisance odors shall extend beyond the boundary of the spray irrigation site when treated wastewater is being applied. If odors are produced that are considered to be a public nuisance, the permittee shall take the necessary steps to eliminate such odors. All action taken shall be reported to the Department in accordance with Part II.A.3 of this permit.

   d. Erosion controls are employed to prevent wastewater runoff from the spray irrigation fields. The permittee must notify the Department immediately if any wastewater runoff occurs.

   e. The spray irrigation field's crops must be maintained in optimal condition, including any necessary weed management, reseeding, or other vegetative management.

   f. Effective vegetative management shall be provided such that crops harvested on the spray irrigation sites are removed from the sites.

   g. The wastewater must be applied in a manner such that the application is even and uniform over the irrigation area.

2. Spray irrigation is prohibited when saturated or frozen soil conditions exist.

3. The ground water mound created by the added infiltration shall at no time reach within two feet of the ground surface in any section of the spray irrigation fields. Should the ground water mound exceed this limit, the permittee shall cease all irrigation of wastewater to the affected fields until the ground water mound recedes to acceptable levels.

4. All construction activities shall be in agreement with the plans and specifications submitted under this project and approved by the Ground Water Discharges Section; and other applicable local utility construction specifications and standards. Connections or additions to the spray irrigation system other than those indicated on the approved plans are prohibited without prior approval from the Ground Water Discharges Section.

5. Roof downspouts, foundation drains, area drains, storm sewers, combined sewers or appurtenances thereto or any sewer or device carrying storm water shall not be connected to the spray irrigation system.

6. The permittee shall take appropriate measures to protect the spray irrigation system from damage due to sub-freezing conditions. Any leaks associated with such conditions shall be reported to the Department and repaired immediately.

7. Signs must be posted along the perimeter of, and at all entry points to, areas utilizing treated wastewater for irrigation to discourage public contact with the effluent. The signs must indicate that the water being irrigated is treated wastewater. The signs must be legible.

8. Potable ground or surface water may be used for distribution system testing and irrigation to establish vegetation when sufficient treated effluent is not available.

9. In the event that the permittee installs new monitoring wells or replaces any existing monitoring wells, the permittee shall submit to the Ground Water Discharges Section new elevation details relative to the common benchmark previously established. Additionally, the permittee shall conduct a ground water quality sampling program prior to initiation of spray irrigation activities on the area incorporating the well. The sampling program shall be sufficient to establish a representative ground water quality at each well prior to initiation of the spray irrigation activities on the area incorporating the well. A minimum of three (3) samples shall be collected at least one month apart and analyzed. A Summary report which includes all analyses shall be submitted to the Ground Water Discharges Section prior to initiation of spray irrigation activities. Analyses shall include the following:

Ammonia Nitrogen	Fecal Coliform	Organic Nitrogen	Total Coliform
Arsenic	Hardness	pH	Total Phosphate as P
Cadmium	Iron	Selenium	Total Phosphorus
Chloride	Lead	Sodium	Total Suspended Solids
Chromium	Manganese	Specific Conductance	Zinc
Copper	Mercury	Sulfate	
Depth to water to 0.01ft from a surveyed point on TOC	Nickel	Temperature	
Dissolved Oxygen	Nitrate + Nitrite Nitrogen	Total Dissolved Solids	

10. The permittee must calibrate all flow meters in accordance with the Manufacturer's recommendations. Calibration shall include, but not be limited to influent, effluent, continuous online turbidity and chlorine residual monitors. The calibration documentation must be submitted with the Annual Report in accordance with Part I.I.2.b.vii.

11. The permittee shall operate and maintain the land treatment system in accordance with the approved Operation and Maintenance Plan.

12. Written permission must be obtained from the Ground Water Discharges Section prior to utilizing the freeboard in any lagoon.

13. This permit does not relieve the permittee of complying with any other applicable Federal, State or local regulations.

14. In the event that the Guidance and Regulations Governing the Land Treatment of Wastes or applicable federal regulations are revised, this permit may be opened and modified accordingly after notice and opportunity for a public hearing.

15. This permit supersedes all previous spray irrigation permits issued to the permittee.

B. FACILITY SPECIFIC CONDITIONS

1. A classification was performed on the permitted facility in accordance with Regulations Licensing Operators of Wastewater Facilities. The wastewater treatment system is designated as a Class II Facility. The facility must be under the direction of a Class II Licensed Operator in Direct Responsible Charge for the facility who is available at all times. A licensed operator, operating under the direction of the licensed operator in Direct Responsible Charge for the facility, must be available when the spray irrigation system is in operation.

2. No more than 230 units shall be connected to the wastewater treatment facility referenced herein.

3. A minimum of three feet of freeboard must be maintained in the facultative treatment/storage lagoons at all times.

Part IV

A. AMENDMENTS TO STATE PERMIT DEN NUMBER 359042-02 ISSUED DECEMBER 26, 2012

1. Amended April 2, 2013

Page 1

Included Amended Date at top right hand corner

Part I

D.1 Corrected typo, effluent discharge limit to 75,000 gallons per day as was previously permitted

Part III

A.9 Updated required monitoring parameters for newly installed wells