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SUBCHAPTER 7. REQUIREMENTS FOR DISCHARGES TO GROUNDWATER (DGW)

7:14A-7.1 Purpose

This subchapter establishes NJPDES permit requirements for persons who discharge pollutants to ground waters of the State. The purpose of the NJPDES discharge to ground water permit is to restore, enhance, and maintain the ground water quality of the State, in accordance with N.J.S.A. 58:10A-1 et seq. and the Ground Water Quality Standards (GWQS) in N.J.A.C. 7:9C.

7:14A-7.2 Requirement to discharge in compliance with a valid NJPDES permit

(a) Persons responsible for discharges to ground water shall comply with all applicable NJPDES regulations.

(b) Except as otherwise provided in N.J.A.C. 7:14A-7.4 and 7.5, no person shall discharge to ground water prior to obtaining a discharge to ground water permit.

(c) All discharges to ground water permits existing on May 5, 1997 shall continue in full force and effect until renewed or terminated in accordance with the provisions of this chapter.

7:14A-7.3 Scope and applicability

(a) Persons responsible for discharges to ground water shall comply with all the requirements of this subchapter, except those persons listed under (c), (d), and (e) below, and in N.J.A.C. 7:14A-7.4.

(b) Persons responsible for the activities, pollution sources, or regulated units listed at (b)1 through 7 below shall comply with the requirements of this subchapter. Persons responsible for discharges not listed below are not exempt from the requirement to obtain a discharge to ground water permit. The list is intended only to be illustrative and is not exhaustive:

1. Surface impoundments;

2. Spray irrigation;

3. Overland flow;

4. Infiltration/percolation lagoons;

5. Residuals surface impoundments;

6. Injection wells; and

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7. Land disposal of dredged spoil.

(c) Persons responsible for discharges to ground water from sanitary landfills as provided for in N.J.A.C. 7:26 shall conduct ground water monitoring in accordance with N.J.A.C. 7:14A-9.

(d) Persons responsible for discharges to ground water from hazardous waste facilities as defined in N.J.A.C. 7:26G, shall conduct ground water monitoring in accordance with N.J.A.C. 7:14A-10.

(e) Persons responsible for discharges to ground water associated with land application of residual shall comply with N.J.A.C. 7:14A-20.

7:14A-7.4 Exemptions

(a) Persons responsible for the following discharges are exempt from the requirement to obtain a discharge to groundwater permit:

1. Discharges from single family residential subsurface sewage disposal systems that are designed, constructed, installed and operated in compliance with the Realty Improvement Sewerage and Facilities Act, N.J.S.A. 58:11-23 et seq., and Standards for Individual Subsurface Sewage Disposal Systems, N.J.A.C. 7:9A;

2. Return flows from irrigated agriculture;

3. Discharges that occurred prior to May 5, 1997, except existing permitted discharges identified in N.J.A.C. 7:14A-7.2(c);

4. Any discharge not to exceed 60 calendar days and in compliance with the instructions of a Department on-scene coordinator or remedial project manager pursuant to 40 CFR 300 (the National Oil and Hazardous Substances Contingency Plan) or 33 CFR 153.10(e) (Pollution by Oil and Hazardous Substances), and the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11; and

5. The following stormwater discharges, if such discharges are not through underground injection regulated under N.J.A.C. 7:14A-8, and do not require a permit under N.J.A.C. 7:14A-24.2(a)9:

i. Stormwater discharges from municipal separate storm sewers that are not identified under N.J.A.C. 7:14A-25.2(a) or (b);

ii. Stormwater discharges from residential areas (including residential streets, parking lots, easements, and open space), or from commercial areas (other than areas of high pollutant loading), unless N.J.A.C. 7:14A-25.2(a) or (b) requires the operating entity to apply for a NJPDES permit for the discharge. For purposes of this subparagraph and N.J.A.C. 7:14A-8.5(b)9 and 24.2(c)3, high pollutant loading areas

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are commercial areas where solvents and/or petroleum products are loaded/unloaded, stored, or applied; commercial areas where pesticides are loaded and/or unloaded or stored; commercial areas where hazardous materials are expected to be present in greater than "reportable quantities" as defined by the USEPA at 40 C.F.R. 302.4; commercial areas where recharge would be inconsistent with a remedial action work plan approved pursuant to the Administrative Requirements for the Remediation of Contaminated Sites rules, N.J.A.C. 7:26C, or a Department approved landfill closure plan; and commercial areas where the risk for spills of toxic material is high, such as gas stations and vehicle maintenance facilities; and

iii Stormwater discharges from animal feeding operations that do not require NJPDES permits under N.J.A.C. 7:14A-2.5(d) or 2.13.

7:14A-7.5 Authorization of discharges to ground water by permit-by- rule

(a) Any person responsible for any of the following discharges to ground water is deemed to have a permit-by-rule:

1. Discharges to ground water from underground injection activities that are eligible for a permit-by-rule under N.J.A.C. 7:14A-8.5;

2. Discharges to ground water from activities associated with the flushing or cleaning of potable water mains and fire water systems, including hydrants and sprinklers;

3. Discharges to ground water from activities associated with the development of potable water wells;

4. Discharges to ground water from activities associated with the installation, development and sampling of monitoring wells in accordance with a NJPDES permit or, for activities not included in a NJPDES permit, in accordance with the Technical Requirements for Site Remediation, including, but not limited to, the requirements of N.J.A.C. 7:26E-3.7(c)2 and 6.4(d)3; and

5. Discharges to ground water from wells, other than discharges that occur during the course of a remediation pursuant to (b)3 below, that occur during aquifer tests for the purpose of obtaining hydrogeologic data, provided that such discharges do not exceed 30 calendar days in duration..

(b) Any person responsible for the discharges to ground water listed in (b)3i through vii below is deemed to have a permit-by-rule if the discharge occurs when:

1. A contaminated site, as defined in N.J.A.C. 7:26E-1.8, is being remediated pursuant to the rules at N.J.A.C. 7:14B implementing the Underground Storage of Hazardous Substances Act (N.J.S.A. 13:1K-6 et seq.), the

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requirements of the Industrial Site Recovery Act (N.J.S.A. 13:1K-6 et seq.), the requirements of the Spill Compensation and Control Act (N.J.S.A. 58:10-23.11), or the Administrative Requirements for the Remediation of Contaminated Sites rules at N.J.A.C. 7:26C; and

2. The person is in receipt of written approval of the discharge from the Department.

3. The following ground water discharges are authorized by permit-by-rule under this subsection:

   i. Discharges to ground water, not to exceed 180 calendar days, from pilot treatment plants to obtain engineering design data;

   ii. Discharges to ground water related to biotreatability studies where the discharge will not exceed 180 calendar days;

   iii. Discharges to ground water, not to exceed 30 calendar days, from wells to test aquifers for the purpose of obtaining engineering and hydrogeologic design data;

   iv. Discharges to ground water not to exceed 180 calendar days, from any other facility or equipment associated with engineering studies, remedial action selection, or design studies and associated monitoring;

   v. Discharges to ground water to remediate contamination from discharges of heating oil as defined at N.J.A.C. 7:14A-1.2, at a residential building of four units or less;

   vi. Discharges to ground water, not to exceed 180 calendar days, related to dewatering at a contaminated site or regulated underground storage tank facility; and

   vii. Discharges to ground water, including those listed in (b)3i through vi above, that occur during the course of a site remediation when the person responsible for conducting the remediation submits a proposal in accordance with the Technical Requirements for Site Remediation, N.J.A.C. 7:26E, including the requirements of N.J.A.C. 7:26E-7.2.

(c) The Department shall invalidate any permit-by-rule under this section and require any person responsible for the discharge for which the permit-by-rule had been approved to apply for and obtain an individual discharge to ground water permit if:

1. The discharge is likely to contravene the ground water quality standards at N.J.A.C. 7:9C;

2. The discharge may result in violation of the Surface Water Quality Standards at N.J.A.C. 7:9B.

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7:14A-7.6 Ground Water Protection Program (GWPP)

(a) Each discharge to ground water permit, except those identified in N.J.A.C. 7:14A-7.3(c), (d) and (e), and those permitted by rule pursuant to N.J.A.C. 7:14A-7.5, shall include an approved Ground Water Protection Program to ensure that the discharge does not contravene the ground water quality standards at N.J.A.C. 7:9C and meets the monitoring requirements of this section and N.J.A.C. 7:14A-7.7.

(b) Unless an alternate program is approved in advance as indicated in (f) below, each Ground Water Protection Program shall include the following components:

1. A monitoring well system, consisting of monitoring wells located in each aquifer that may be impacted by the discharge. Unless the permittee demonstrates otherwise to the satisfaction of the Department, the monitoring well system shall consist of a minimum of one hydraulically upgradient well, and at least three hydraulically downgradient wells. The permittee shall demonstrate the adequacy of the monitoring well system by:

   i. Submission of results of a physical or mathematical ground water flow and/or contaminant transport model demonstrating that the monitoring well system is capable of intercepting contaminant plumes emanating from each pollutant source;

   ii. Submission of results of geophysical methods of analysis such as resistivity/conductivity methods that confirm wells are placed such that they are capable of intercepting contaminant plumes emanating from each pollution source; or

   iii. Submission of results of an alternative method of adequacy testing, approved by the Department in writing;

2. Effluent quality monitoring;

3. A schedule of mechanical and structural testing to determine that the berms, dikes, liners, and wells, and any other engineered devices used as part of a treatment works will function as designed;

4. A list of ground water contaminants for which to monitor, analyze, and report, including the contaminants identified during the pollutant characterization performed in accordance with N.J.A.C. 7:14A-7.9(d)2; and

5. A schedule, including procedures and techniques for:

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i. Sample collection;

ii. Sample preservation and shipment;

iii. Analytical procedures; and

iv. Chain of custody control.

(c) In addition to the requirements of (b) above, a Ground Water Protection Program shall contain additional treatment works, materials management, best management plans, discharge sampling, flow limitations, effluent limitations, monitoring wells, lysimeters, piezometers, alarms, hydraulic control devices and inspections as required to prevent contravention of the ground water quality standards in N.J.A.C. 7:9C.

(d) In each Ground Water Protection Program, the Department shall require one or more of the following monitoring programs:

1. A leak detection monitoring program, capable of detecting all discharges from any pollution source not designed to discharge pollutants but from which a discharge could occur as a result of a leak or other structural failure. The leak detection monitoring program shall include:

i. A monitoring well system that includes the components described at (b)1 above or leak detection devices such as piezometers, alarms, electrical leak detection or leak location systems, or leachate collection systems; and

ii. A statistical analysis of the monitoring well data collected in accordance with N.J.A.C. 7:14A-7.7, in order to determine whether or not there is statistically significant evidence of a leak from the pollutant source when monitoring is conducted pursuant to (b)1 above.

2. An attenuation monitoring program if any pollution source is known or expected to discharge pollutants. The attenuation monitoring program shall include:

i. The components described at (b) above; and

ii. A statistical analysis of the monitoring well data collected in accordance with N.J.A.C. 7:14A-7.7, in order to determine whether or not there is statistically significant evidence of a contravention of the ground water quality standards in N.J.A.C. 7:9C.

3. A non-point source monitoring program if there are an indeterminate number of pollution sources, or more than one discharge source. The non-point source monitoring program shall consist of:

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i. The components described at (b) above; and

ii. A monitoring approach capable of evaluating whether ground water quality standards are contravened at the property boundary, or at another point of compliance as identified in the permit.

(e) When comparing data from monitoring wells, the data collected shall be subjected to the appropriate statistical analyses as described in N.J.A.C. 7:14A-7.7.

(f) If approved by the Department in writing, a permittee may implement an alternate Ground Water Protection Program that ensures compliance with the ground water quality standards of N.J.A.C. 7:9C and that meets the monitoring requirements of this section and N.J.A.C. 7:14A-7.7.

7:14A-7.7 Ground water sampling procedures and statistical analysis requirements

(a) The person responsible for conducting the Ground Water Protection Program established pursuant to N.J.A.C. 7:14A-7.6 shall conduct ground water sampling in accordance with the edition of the Department's Field Sampling Procedures Manual applicable at the time of sampling, an alternate method approved by the Department, or as set forth in the NJPDES-DGW permit.

(b) When statistical data evaluations are specified by the Department to implement the Ground Water Protection Program, the statistical test chosen shall be conducted separately for each specified constituent in each well, and one of the following statistical methods shall be used to evaluate ground-water monitoring data for each specified constituent:

1. A parametric analysis of variance (ANOVA) followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method shall include estimation and testing of the contrasts between each compliance well's mean and the background water quality mean levels for each constituent;

2. An analysis of variance (ANOVA) based on ranks followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method shall include estimation and testing of the contrasts between each compliance well's median and the background water quality median levels for each constituent;

3. A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background water quality data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit;

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4. A control chart approach that gives control limits for each constituent; or

5. Another statistical test method that meets the performance standards of (c) below, and has been approved by the Department in writing.

(c) Any statistical method chosen under this section shall comply with the following performance standards, as appropriate:

1. The statistical method used to evaluate ground-water monitoring data shall be appropriate for the distribution of parameters. If the distribution of the parameters is shown by the permittee to be inappropriate for a normal theory test, then the data must be transformed or a distribution free theory test used. If the distributions for the constituents differ, more than one statistical method may be needed.

2. If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background water quality constituent concentrations or a ground-water protection standard, the test shall be done at a type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the type I experiment wise error rate for each testing period shall be no less than 0.05; however, the type I error of no less than 0.01 for individual well comparison shall be maintained. The performance standard does not apply to tolerance intervals, prediction intervals or control charts.

3. If a control chart approach is used to evaluate ground-water monitoring data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment. The parameters shall be determined after considering the number of samples in the background water quality data base, the date distribution, and the range of the concentration values for each constituent of concern.

4. If a tolerance interval or a prediction interval is used to evaluate ground-water monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval shall contain shall be protective of human health and the environment. These parameters shall be determined after considering the number of samples in the background water quality data base, the data distribution, and the range of the concentration values for each constituent of concern.

5. The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation level (PQL) as defined in N.J.A.C. 7:9C that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

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6. If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(d) When conducting a leak detection monitoring program, the permittee shall determine whether or not there is a statistically significant increase over background water quality values for each parameter or constituent required in the permit.

1. In determining whether a statistically significant increase has occurred, the permittee shall compare the ground water quality of each parameter or constituent at each compliance point monitoring well designated pursuant to the permit to the background water quality value of that constituent, according to the statistical procedures and performance standards specified under this section.

2. Within the period of time specified in the NJPDES discharge to ground water permit, and after completing sampling and analysis, the permittee shall determine whether there has been a statistically significant increase over background water quality at each monitoring well.

(e) When conducting an attenuation monitoring program, the permittee shall determine whether the discharge complies with the ground water constituent standards for the classification area established pursuant to N.J.A.C. 7:9C.

1. In determining whether the discharge complies with the ground water constituent standards for the classification area, the permittee shall compare the ground water quality of each parameter or constituent at each compliance point monitoring well designated pursuant to the permit to the background water quality value of that constituent, according to the statistical procedures and performance standards specified under this section.

2. Within the period of time specified in the NJPDES discharge to ground water permit, and after completing sampling and analysis, the permittee shall determine whether there has been a statistically significant contravention of the ground water quality standards.

7:14A-7.8 Required response to contravention of ground water quality standards

(a) To address any contravention of the ground water quality standards that occurs while a discharge to ground water permit is in effect, each permit shall specify the following measures for the permittee to undertake as appropriate:

1. That the permittee shall notify the Department as provided in the permit, including the nature and extent of the contravention, followed by

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confirmation in writing, by certified mail within a time frame set forth in the permit, after the Department receives information obtained according to N.J.A.C. 7:14A-7.6(b)4;

2. That the permittee shall install additional wells at additional locations to determine the extent of the ground water contamination attributable to the regulated discharge;

3. That the permittee shall provide additional pretreatment of the discharge to improve its quality by decreasing pollutant concentration;

4. That the permittee shall expand disposal areas onto additional land areas to reduce or minimize the impact of the discharge;

5. That the permittee shall take any other action necessary to comply with the ground water quality standards;

6. That the permittee shall reduce or cease the discharge; and

7. That the permittee shall implement the responses within the time frame required by the permit.

(b) In addition to the requirements of (a) above, any person responsible for a discharge that contravenes the Ground Water Quality Standards as specified in the discharge to ground water permit may be subject to the requirements of N.J.A.C. 7:26C.

7:14A-7.9 General requirements for applications for discharge to groundwater permit

(a) In addition to the information required pursuant to N.J.A.C. 7:14A-4.3, an applicant for a NJPDES Discharge to Groundwater permit shall submit information to the Department as follows:

1. All dischargers shall submit the information required pursuant to (d) below, except as provided in N.J.A.C. 7:14A-25.9(d)1 for certain stormwater discharges, or when, after consultation with the Department during pre-application conferences, it is determined that the information is not necessary to develop permit conditions for the facility.

(b) Submission of information as required under this section shall not exempt the applicant from compliance with any other permit application requirements which apply to the discharge to ground water site, to any treatment system of which the discharge to ground water site is a component, or to any other existing or proposed discharges at the facility.

(c) Pre-application conferences with the Department concerning the information required pursuant to (d) below are recommended.

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(d) The following information shall be submitted in the application for the Discharge to Ground Water permit pursuant to (a) above:

1. Project related information as follows:

i. A description of the facility;

ii. The nature of the establishment; and

iii. The total floor area of all structures on site and their maximum occupancy where necessary to determine the daily volume of discharge;

2. Pollutant characteristics as follows:

i. The origin and daily volume of discharge;

ii. Degree of pretreatment of the discharge;

iii. Characteristics of the quality of the discharge.

(1) Unless otherwise approved by the Department, all analyses or estimates shall include the following parameters at a minimum:

(A) Ammonia nitrogen (NH_3-N);

(B) Nitrate nitrogen (NO_3-N);

(C) Total Kjeldahl nitrogen (TKN);

(D) Biochemical oxygen demand (BOD);

(E) Chemical oxygen demand (COD);

(F) Total dissolved solids (TDS);

(G) Suspended solids (SS);

(H) pH;

(I) Calcium (Ca);

(J) Magnesium (Mg);

(K) Sodium (Na);

(L) Phosphorus (P);

(M) Fecal coliform bacteria;

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(N) Grease and oil;

(O) Metals;

(P) Base/neutral compounds;

(Q) Acid extractable compounds;

(R) Volatile organics; and

(S) Pesticides.

(2) Dependent on the nature of the facility as described in accordance with (d)1 above, base/neutral compounds, acid extractable compounds, volatile organics and pesticides shall be analyzed for as required pursuant to N.J.A.C. 7:14A-4 - Appendix A; and

iv. The compatibility of the wastewater with onsite soil conditions and vegetation (if any) shall be substantiated by the applicant;

3. Site related information as follows:

i. Present tax lot and block, municipality and county in which the facility is located or is proposed to be located;

ii. A general plan to scale showing at a minimum the location of the discharge to ground water with respect to the following within one half mile of the boundaries of discharge to ground water site:

(1) Property boundaries;

(2) Roadways;

(3) Existing and proposed land use of discharge to ground water site and surrounding areas;

(4) Adjacent property ownership and all dwellings and buildings of human use or occupancy;

(5) Surface waters, including but not limited to, perennial and intermittent streams, lakes, ponds and reservoirs; and

(6) Mines (surface and subsurface) and quarries;

iii. Topographic (two foot contour intervals), geologic and soils (USDA) maps of the discharge to ground water site and surrounding area sufficient to define conditions and evaluate probable impacts of the

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discharge to ground water.

iv. A plot plan to scale showing:

(1) The discharge to ground water area;

(2) Property boundaries;

(3) Roadways;

(4) Pre-treatment facilities;

(5) Storage facilities;

(6) All conveyance and distribution piping;

(7) Any sinkholes, gullies or soil erosional features (natural or man-made) within the discharge to ground water site which divert drainage from or through the facility property;

(8) Existing monitor and piezometer wells;

(9) Water supply wells including the depth of the screened interval and yield;

(10) A wellhead protection area certified by the Department;

(11) Soil borings, test pits and hydraulic conductivity tests;

(12) All wetlands and buffer zones; and

(13) All areas subject to flooding within the five-, 10- and 25-year storm events; and

v. A well inventory of the area within one half mile of the boundaries of the discharge to ground water indicating the depth of all existing domestic, municipal and industrial supplies. Yields of all wells exceeding 100,000 gallons per day or 70 gallons per minute shall be indicated on a location map or key map;

4. Soils and geologic evaluation as follows:

i. A sufficient number of borings shall be made of the disposal site to characterize and verify the subsurface conditions beneath the site with respect to the types of material, uniformity, depth to bedrock, and ground water elevations. When, in the judgment of the Department, the number of borings is not sufficient to adequately describe the geologic formations and ground water flow patterns below the

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disposal site, in regard to potential contaminant migration paths, supplemental borings or geophysical methods will be required;

ii. Data obtained from borings shall be collected by standard undisturbed soil sampling techniques for engineering properties, and split spoon sampling or standard penetration tests for classification. Samples shall be collected and classified continuously for the first 20 feet of boring and at five foot intervals thereafter;

iii. All borings shall extend to a minimum depth of 20 feet unless specified by the Department. The Department shall require deeper borings in areas in which 20 feet is not sufficient to describe the geologic formations and ground water flow patterns in regard to the potential contaminant migration paths;

iv. Logs shall be submitted for each boring, regarding rock and soil conditions encountered. Each log shall include a soil or rock description in accordance with recognized standard methods (USDA, Unified or Burmeister Soil Classification System; Rock Quality Description System), depth of individual soil or rock strata, water levels encountered, blow counts, depth of soil tests and dates. All depths described within the boring logs shall be correlated to New Jersey Geodetic Control Survey Datum;

v. A sufficient number of test pits necessary to characterize all soil series within the discharge to ground water site shall be excavated. Each test pit log shall describe each recognizable soil horizon or substratum for depth and thickness, soil color using the Munsell System of Classification (including abundance, size and contrast of mottling where present), soil texture using the USDA Soil Textural Classification System, an estimation of the volume of coarse fragment (where present), soil structural class and soil consistency;

vi. A determination of depths to seasonal high water table specifying the methodology used to make the determination; and

vii. A description of the physiographic region and geologic formation(s) into which pollutants are discharged. Site specific geology including, but not limited to, bedrock outcrop, strike and dip of sedimentary formations and foliation trend and dip angles of igneous and metamorphic rocks, faults, joint and fracture trends in bedrock including dip angles, trend direction of solution channels in karst topography, saprolite development, clay lenses or fragipans, perched water tables or any other geologic features which may impede the treatment and/or disposal of pollutants shall be described;

5. Hydrogeologic evaluation as follows:

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i. A determination of ambient or background ground water quality shall be required for the parameters listed in (d)2iii(1) above. The well used to characterize background water quality shall be located where unaffected, or if not possible where least impacted, by the discharge. Data shall be provided to show that background water quality wells are located in the same hydrologic units as the wells subsequently used to monitor the impact of the discharge;

ii. A representative determination of background ground water quality shall be made for all parameters specified in (d)2iii(1) above. A minimum of five samples shall be collected over a time period which is representative of spatial or seasonal variations in quality. The arithmetic mean and variance shall be determined for each respective parameter concentration by pooling the measurements in samples;

iii. Ground water samples shall be collected within 18 months before the date of receipt by the Department of the application for a permit under this section from well(s) located hydraulically upgradient from the discharge to ground water;

iv. A sufficient number of tests shall be performed in order to characterize onsite hydrogeologic characteristics, including, but not limited to, horizontal hydraulic conductivity, ground water flow velocity and hydraulic gradient. Where, in the judgment of the Department, the information submitted is insufficient to adequately evaluate the hydrogeologic characteristics of the site, supplemental tests or methods may be required; and

v. Ground water contour maps shall be submitted depicting both initial piezometric conditions and ground water flow conditions resulting from the growth and/or decay of ground water mound(s) induced by the discharge to ground water. For facilities which have surface impoundments, the ground water contour map for the facility would not need to depict ground water recharge characteristics associated with surface impoundments. Ground water elevations shall be based upon synoptic well data collected within 18 months of the date of receipt by the Department of an application for a permit under this section; and

6. Engineering information as follows:

i. Engineering plans and specifications for the entire project, describing the proposed treatment process(es) and facilities, storage facilities (if necessary), conveyance systems, disposal facilities, equipment specifications, capacities and all related engineering and operational data;

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ii. Description of the method by which compliance with Ground Water Quality Standards are to be achieved; and

iii. A calculation of the surface run-off across the discharge to ground water site prepared using a 25-year storm, with estimates of the effect of such run-off on wastewater treatment, storage, disposal, and on erosion, flooding and related details.

7:14A-7.10 Additional requirements for applications for NJPDES-DGW permits for surface impoundments

(a) In addition to the general requirements for applications for discharge to ground water permits in N.J.A.C. 7:14A-7.9, an applicant for a NJPDES Discharge to Ground Water permit for a surface impoundment shall submit to the Department the information as required in this section.

(b) Surface impoundments with both a primary liner and a secondary liner, as defined in N.J.A.C. 7:14A-1.2, which cover all surrounding earth likely to be in contact with the waste or leachate and which incorporate the use of a leachate collection system located between the liners designed to monitor for any failure of the primary liner and collect all leachate that may pass through as a result of primary liner failure, may pursue the monitoring style in N.J.A.C. 7:14A-7.6(d)1.

(c) Surface impoundments which treat, store, or dispose of hazardous waste shall comply with the requirements of N.J.A.C. 7:26G. Any surface impoundment that is not a solid waste facility pursuant to N.J.A.C. 7:26, shall comply with the provisions of this subchapter.

(d) Information shall be submitted concerning the resistance to oxidation and sunlight exposure of the wastewater to be impounded. Information shall also be submitted as to the physical and chemical compatibility of the liner material with on-site soils and the wastewater constituents.

7:14A-7.11 Additional requirements for applications for NJPDES-DGW permits for spray irrigation

(a) In addition to the general requirements for applications for discharge to ground water permits in N.J.A.C. 7:14A-7.9, an applicant for a NJPDES Discharge to Ground Water permit for spray irrigation systems shall submit to the Department the information as required in this section.

(b) In addition to the soils evaluation requirements in N.J.A.C. 7:14A-7.9(d)4, soil pH, cation exchange capacity, percent base saturation, exchangeable sodium percentage and electrical conductivity shall be analyzed for each horizon within the soil column for each soil series within the discharge to ground water area.

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(c) Climate related information, reported on a monthly basis, including, but not limited to, total precipitation, total snowfall, mean number of days with precipitation exceeding 0.10 and 0.50 inches, mean temperature, mean daily maximum and minimum temperatures and mean number of days with mean temperature less than 32 degrees Fahrenheit. All data shall be collected from the nearest National Weather Service weather station, for the 10 year period preceding the date of receipt by the Department of the application for a permit under this section.

(d) A description of the proposed cover crop and natural vegetation, including, but not limited to, nutrient requirements, length of growing season, water tolerance and sensitivity to wastewater constituents being land applied as well as a detailed long term vegetation or crop management program, including use or disposal of the crop.

7:14A-7.12 Additional requirements for applications for NJPDES-DGW permits for overland flow

(a) In addition to the general requirements for applications for discharge to ground water permits in N.J.A.C. 7:14A-7.9, an applicant for a NJPDES Discharge to Ground Water permit by overland flow shall submit to the Department the information as required in this section.

(b) In addition to the soils evaluation requirements in N.J.A.C. 7:14A-7.9(d)4, soil pH, cation exchange capacity, percent base saturation, exchangeable sodium percentage and electrical conductivity shall be analyzed for each horizon within the soil column for each soil series within the discharge to ground water area.

(c) Climate related information, reported on a monthly basis including but not limited to total precipitation, total snowfall, mean number of days with precipitation exceeding 0.10 and 0.50 inches, mean temperature, mean daily maximum and minimum temperatures and mean number of days with mean temperature less than 32 degrees Fahrenheit. All data shall be collected from the nearest National Weather Service weather station, for the 10 year period preceding the date of receipt by the Department of the application for a permit under this section.

(d) A description of the proposed cover crop and natural vegetation, including, but not limited to, nutrient requirements, length of growing season, water tolerance and sensitivity to wastewater constituents being land applied, as well as a detailed long term vegetation or crop management program, including use or disposal of the crop.

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7:14A-7.13 Additional requirements for applications for NJPDES-DGW permits for infiltration/percolation lagoons

(a) In addition to the general requirements for applications for discharge to ground water permits in N.J.A.C. 7:14A-7.9, an applicant for a NJPDES Discharge to Ground Water permit by infiltration/percolation lagoons shall submit to the Department the information as required in this section.

(b) Climate related information, reported on a monthly basis including but not limited to total precipitation, total snowfall, mean number of days with precipitation exceeding 0.10 and 0.50 inches, mean temperature, mean daily maximum and minimum temperatures and mean number of days with mean temperature less than 32 degrees Fahrenheit. All data shall be collected from the nearest National Weather Service weather station, for the 10 year period preceding the date of receipt by the Department of the application for a permit under this section.

(c) A description of the proposed cover crop or natural vegetation within the lagoon area and a detailed long term vegetation or crop management program, including use or disposal of the crop.

7:14A-7.14 Additional requirements for applications for NJPDES-DGW permits for residual surface impoundments

(a) In addition to the general requirements for applications for discharge to ground water permits in N.J.A.C. 7:14A-7.9, an applicant for a NJPDES Discharge to Ground Water permit for a residual surface impoundment or residual infiltration/percolation lagoon shall submit to the Department the information as required in this section.

1. A description of residual characteristics as follows:

i. The origin and volume of residual;

ii. Dated analysis of the residual on a mg/kg dry weight basis, including all constituents required to be analyzed in accordance with the Sludge Quality Assurance Regulations (SQAR), N.J.A.C. 7:14C; and

iii. Additional quality analyses as deemed necessary by the Department based on its evaluation of past SQAR reports or other related information, such as information on industrial discharges which may contribute constituents not normally evaluated under the SQAR program or which may contribute constituents identified in USEPA's Technical Support Document for Surface Disposal of Sewage Sludge.

iv. Any additional residual monitoring data the applicant compiled prior to applying for a permit, including available ground water monitoring

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data, with descriptions of well locations and depth to ground water;

2. Operational and procedural information as follows:

   i. Procedures to fill the residual surface impoundment or residual infiltration/percolation lagoon which provide for uniform distribution;

   ii. Application or loading rates as well as procedures for periodic evacuation for cleaning and inspection or to provide the resting phases;

   iii. A schedule for periodic removal of residual and designation of ultimate management sites;

   iv. The frequency of inspection of containment structures for routine maintenance and leakage, wall or liner failures or imperfections and general site management;

   v. A spill control plan (for example, overflow prevention devices and/or high level alarms and automatic shut-off valves on influent lines) and emergency response procedures; and

   vi. Facility operations, including volumes of residual to be handled, methods of handling, facility layout and use or disposal methods; and

3. Surface impoundments which treat, store, or dispose of hazardous waste shall comply with the requirements of N.J.A.C. 7:26G. Any surface impoundment that is not a solid waste facility pursuant to N.J.A.C. 7:26 shall comply with the provisions of N.J.A.C. 7:14A-7.10.

7:14A-7.15 Additional requirements for applications for NJPDES-DGW permits for disposal of dredged spoil

(a) In addition to the general requirements for discharge to ground water permits in N.J.A.C. 7:14A-7.9, an applicant for a NJPDES Discharge to Ground Water permit for land application of dredged spoil shall submit to the Department the information as required in this section.

(b) The applicant shall provide a proposed dredged spoil disposal plan containing the following components:

1. An engineering design and construction plan, including at a minimum;

   i. A description of proposed pre-construction site work, grading, and foundation preparation;

   ii. A description of characteristics of liners or other foundation materials;

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iii. Results of stability analyses of dikes and berms with respect to operational stresses; and

iv. A description of the onsite and offsite transportation system, including transportation of dredged spoil to the site, routing, loading/unloading, and construction and maintenance of roads;

2. An operation/maintenance plan that includes:

i. A plan that details the filling sequence;

ii. A plan detailing staging, and interim storage of materials prior to disposal into the confined upland site;

iii. Provisions for dust control, and control of fugitive dust emissions; and

iv. Use of intermediate and final cover;

3. A Ground Water Protection Program demonstrating that the disposal of dredged spoil will not contravene the Ground Water Quality Standards of N.J.A.C. 7:9C. The Ground Water Protection Program shall identify and discuss the monitoring system to be employed pursuant to N.J.A.C. 7:14A-7.6(b) in consideration of the following:

i. With the exception of facilities which qualify for the monitoring style in N.J.A.C. 7:14A-7.6(d)1, the maximum leachate concentration of the dredged spoil shall be determined by subjecting an adequate number of samples to leaching tests. The determination of what constitutes an adequate number of samples shall be in accordance with a statistical method, as described in N.J.A.C. 7:14A-7.7 above. Leaching tests shall be performed according to the methods described by the U.S. Army Corps of Engineers, Waterways Experiment Station (WES), or other test approved by the Department.

ii. With the exception of facilities which qualify for the monitoring style in N.J.A.C. 7:14A-7.6(d)1, the leachate volume shall be estimated using the Hydrologic Evaluation of Landfill Performance (HELP) Model, EPA/600/9-94/xxx, U.S. Environmental Protection Agency Risk Reduction Engineering Laboratory, Cincinnati, OH.

iii. When the results of (b)3i and ii above indicate that the quality of the leachate shall exceed the ground water quality standards, the plan shall include a ground water flow and solute transport model that can demonstrate that the annual discharge of contaminants in the leachate will not result in contravention of the ground water quality standards; and

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4. A closure/post closure care plan, that describes in detail:

   i. The final cover to be used;

   ii. A program to maintain the berms and dikes;

   iii. Plans to maintain or control vegetation; and

   iv. Plans to limit access using fences, and gates, etc.; and

   v. A financial plan that describes in detail how the closure improvements shall be maintained for 30 years.