State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code - 401-02B
Water Pollution Management Element
Bureau of Nonpoint Pollution Control
P.O. Box 420 – 401 E. State St.
Trenton, NJ 08625-0420
Tel: (609) 633-7021 / Fax: (609) 777-0432
http://www.nj.gov/dep/dwq/bnpc_home.htm

BOB MARTIN
Commissioner

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

May 16, 2014

Re: Ground Water Master General Permit Renewal
Cat: I2 – Potable WTP Basins & Drying Beds
NJPDES #: NJ0108642

Dear Permittee:

A **draft New Jersey Pollutant Discharge Elimination System (NJPDES) permit action** identified above has been issued in accordance with N.J.A.C. 7:14A. The general permit is being drafted with no changes other than corrections to NJDEP mailing addresses.

Notice of this draft permit action will appear in the June 4, 2014 *DEP Bulletin*. *The DEP Bulletin* is available on the internet at http://www.state.nj.us/dep/bulletin or by contacting the DEP Document Distribution Center at (609) 777-4398. Thus, the public comment period will close thirty (30) days after publication in the *DEP Bulletin* in accordance with N.J.A.C. 7:14A-15.10(c)1ii.

All comments shall be submitted in writing and by certified mail, or other means which can provide verification of date of delivery, to:

Bureau of Nonpoint Pollution Control
401 E. State St. - P.O. Box 420
Trenton, New Jersey 08625-0420

If you have questions or comments regarding the draft action, please contact Mike Pigliacelli at (609) 633-7021

Sincerely,

Ron Bannister, P.G., Supervisor
Bureau of Nonpoint Pollution Control

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New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Nonpoint Pollution Control

PUBLIC NOTICE

Notice is hereby given that the New Jersey Department of Environmental Protection (Department/NJDEP) proposes to Ground Water Master General Permit Renewal a New Jersey Pollutant Discharge Elimination System (NJPDES) Discharge to Ground Water Permit NJ0108642 in accordance with N.J.A.C. 7:14A, and by authority of the Water Pollution Control Act at N.J.S.A. 58:10A-1 et seq., for the following discharge:

Applicant or Permittee:

NJDEP Division Of Water Quality
401 E. State St.
Trenton, NJ 08625

Facility:

NJPDES Master General Permit Program Interest
401 E. State St.
Trenton, NJ 08625

This action is a renewal of the I2 Potable WTP Basins & Drying Beds General Permit and shall be adopted without change.

A draft NJPDES permit Ground Water Master General Permit Renewal has been prepared for this facility based on the administrative record filed at the NJDEP, 401 East State Street, Trenton, New Jersey 08625. Copies of the draft document are obtainable and the administrative record is available for inspection by appointment only, Monday through Friday. If you are interested in scheduling an appointment or requesting specific information regarding the draft document, please contact Mike Pigliacelli of the Bureau of the Bureau of Nonpoint Pollution Control at (609) 633-7021.

Written comments or a request that the Department hold a non-adversarial public hearing on the draft document must be submitted in writing by certified mail (return receipt requested), or by other means which provides verification of the date of delivery to the Department, to Jim Murphy, Chief, or Attention: Comments on Public Notice NJ00108642, Bureau of Nonpoint Pollution Control, P.O. Box 420, Trenton, NJ 08625 by the close of the public comment period. The public comment period will close thirty calendar days after the latest date of publication of this notice. This notice will be published in the DEP Bulletin on June 4, 2014. All persons, who believe that any condition of this draft document is inappropriate or that the Department's decision to issue this draft document is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period.

The Department will respond to all significant and timely comments upon issuance of the final permit decision, and each person who has submitted written comments or requested notice will receive notice of the Department's permit decision.

STATEMENT OF BASIS

GENERAL NJPDES-DGW PERMIT TO DISCHARGE FILTER BACKWASH WATER INTO THE GROUND WATERS OF THE STATE OF NEW JERSEY

DESCRIPTION OF INDUSTRIAL FACILITIES COVERED BY THIS PERMIT

This general New Jersey Pollutant Discharge Elimination System-Discharge to Ground Water (NJPDES-DGW) permit (NJ0108642) is issued in accordance with N.J.A.C. 7:14A-1 and applies specifically to active potable water treatment plants which discharge filter backwash/clarifier water to ground water via basins. This permit does not supersede any existing permits the water treatment plants may currently possess. All facilities with existing individual NJPDES-DGW permits for their basins are encouraged to apply for this general permit, but the facility retains the right to remain in an individual permit. All facilities who choose to apply for authorization to discharge in accordance with this permit will have their individual DGW permits covering the discharge automatically revoked by the Department without further public notice. Facilities which are presently authorized under this general permit and who have submitted a renewal request, will, upon reissuance of this general permit, be automatically renewed.

Pursuant to the NJPDES regulations, N.J.A.C. 7:14A-1, meetings with members of the potable water treatment industry, site visits to a variety of potable water treatment facilities, data collected from individual NJPDES permits and the prior version of this general NJPDES permit, the Department determined this category of discharge is effectively controlled under a single general permit with similar monitoring requirements rather than by individual permits. NOTE: This general permit does not address nor does it constitute approval of any past site activities which the facility conducted that may have adversely impacted the ground waters of the State.

DESCRIPTION OF SPECIFIC CONDITIONS FOR THE GENERAL PERMIT FOR WATER TREATMENT PLANTS (WTP)

The Department recognizes that the operational processes and discharges at many potable WTP facilities are similar enough to warrant similar permit conditions. For the purpose of this permit, a water treatment plant backwash basin (basin) is a collective term used to describe a variety of outdoor in-ground depressions. Examples of these basins include, but are not limited to: retention ponds, settling ponds, storage ponds, detention ponds, residual drying beds, lined or unlined basins, infiltration/percolation lagoons, and surface impoundments. Regardless of the terminology used in describing these basins, the common feature is that they are natural, or man-made, topographic depressions that are designed to settle out and temporarily store filter backwash water and accumulated residual materials which are by-products of the potable water treatment process. These basins can be divided into two categories: lined and unlined. Lined basins are not designed to discharge to ground water and inherently represent a small risk to ground water quality, whereas unlined basins are designed to discharge to ground water and represent greater risk. Differences in monitoring requirements have been devised in the permits that are based upon whether the basins are lined or unlined.

Purpose of the monitoring program is twofold: to determine the quantity and quality of the filter backwash water (filtrate) from the water treatment plant residual at each facility, and to assess its potential impact on ground water quality. Procedures for extracting and analyzing the filtrate are

described in the permit. Evaluating the filtrate data can infer the field leachability of this residual material and its potential to adversely impact ground water quality.
This permit is intended for those facilities that have treatment facilities.

Two monitoring program scenarios have been created in this renewal permit and appropriate monitoring programs have been devised as follows:

1. **Unlined basins: Monitoring will consist of annual sampling of the filtrate for the following metals: aluminum, arsenic, cadmium, chromium, copper, iron, manganese, nickel, and zinc (listed in Part III, Table 1 of the permit). There will also be annual sampling for the 4 major trihalomethane compounds (bromoform, bromodichloromethane, chloroform, dibromochloromethane).**

2. **Lined basins: To qualify for this monitoring exemption from metals monitoring requirements, the liner integrity shall be certified by a licensed Professional Engineer in accordance with the schedule contained in the permit. Monitoring will consist of annual sampling of the filtrate for only the 4 major trihalomethane compounds (Table 2 in Part III of this general permit).**

Additionally, permittees are required to report S.Q.A.R. (Sludge Quality Assurance Regulations) analyses and follow other requirements outlined in the permit. In accordance with the Sludge Quality Assurance Regulations (S.Q.A.R., N.J.A.C. 7:14C), the frequency of monitoring is based upon the amount of sludge generated. Consequently, the frequency of monitoring found on Table III-C-1 of Part III may be reduced for individual authorizations. Also in accordance with the S.Q.A.R., the parameters to be monitored on Table III-C-1 of Part III may change in individual authorizations pursuant to N.J.A.C. 7:14C-1.9(c).

All treatment works with a discharge regulated under N.J.A.C. 7:14A must have permits that implement applicable technical standards for residuals management. Generally, the permit issued to the treatment works generating the residual will include applicable residual quality monitoring as well as other general conditions required by N.J.A.C. 7:14A-6. In addition, the permit may include conditions related to any aspect of residual management developed on a case-by-case basis where the Department determines that such conditions are necessary to protect public health and the environment.

The permit may also include conditions establishing requirements for treatment works that send residual to other facilities for final use or disposal. Thus, ALL residual preparers (that is, generators as well as persons who manage the residual) are required to submit basic information concerning their residual use and disposal practices. This basic information is submitted by compliance with the Sludge Quality Assurance Regulations (N.J.A.C. 7:14C).

The documents listed below have been used to establish the residual conditions of the Draft Permit:

a. United States Environmental Protection Agency "Standards for the use or disposal of sewage sludge" (40 CFR Part 503),
b. "New Jersey Pollutant Discharge Elimination System" Rules (N.J.A.C. 7:14A),
c. Technical Manual for Residuals Management, May 1998,

d. USEPA Part 503 Implementation Guidance, EPA 833-R-95-001, October 1995. This document is a compilation of federal requirements, management practices and EPA recommended permit conditions for sewage sludge use and management practices,
e. USEPA A Plain English Guide to the EPA Part 503 Biosolids Rule, EPA/832/R-93/003, September 1994,
f. New Jersey "Statewide Sludge Management Plan", November 1987 and
g. New Jersey "Sludge Quality Assurance Regulations" (SQAR), N.J.A.C. 7:14C.

Maintenance requirements included in this permit are intended to prevent unauthorized discharges from basins. These include regular visual inspections to observe the structural integrity of each basin. For permittees with lined basins, this means that liners must be visually inspected for holes, cracks, tears or other imperfections on a regular basis during periods when the water level has been reduced. In the event that a permitted facility has lined basins, the facility is required to test annually for the trihalomethane compounds but will not subject to the individual permit requirement in the event of exceedances *provided that the liner is properly maintained.*

All permittees are required to comply with all applicable Federal, State, and local rules, regulations and ordinances. This includes but is not limited to the following: Pinelands Commission Development Review approval; consistency with applicable Areawide Water Quality Management Plans; State and Federal requirements regarding storage and ultimate disposal of potable water treatment plant residuals; etc. Issuance of this general NJPDES-DGW permit shall not be considered as a waiver of any other requirements.

TECHNICAL BACKGROUND

The process of treating drinking water supplies usually requires the removal of low concentrations of impurities such as iron, manganese and organic matter. In addition, raw water supplies often contain trace concentrations of other metals such as arsenic, copper, cadmium, chromium, and lead. The basic treatment process for bringing water to potable standards includes: pH adjustment (sodium hydroxide, lime addition), flocculation (alum, ferric sulfate, potassium permanganate, or other polymer), filtration, and disinfection (chlorination, ozone, chloramine or UV). Although the details of each water treatment system are partially dependent upon the quality and source of raw water supply (wells or surface water supply), the basic process is the same.

Chlorine is often used to disinfect potable water sources. A by-product of chlorination is the creation of trihalomethanes (principally: chloroform, dichlorobromomethane, dibromochloromethane, and bromoform) which form when natural dissolved organic compounds and organic matter react with free chlorine (or iodine or bromine). Of the commonly monitored trihalomethanes, chloroform is expected to be found in the highest concentration. The permit requires taking samples for trihalomethanes during a backwash event. Since these 4 major trihalomethane compounds are associated with the liquid fraction, the permit requires analysis of the liquid fraction of the backwash. With respect to these constituents the backwash water must conform with the ground water quality criteria (N.J.A.C. 7:9-6) or the Department may require non-conforming facilities to obtain an individual permit with increased monitoring for these compounds, unless the facility operates lined basins.

Filters used for the filtration phase of the treatment process must be periodically cleaned. Backwashing is a cleaning procedure that temporarily reverses flow and dislodges the particulate matter trapped in the filters. When backwashing occurs, the wastewater is usually discharged to an

outdoor basin. Contaminants in the backwash water typically settle within 12 to 24 hours in two distinct layers: a heavy floc on the bottom (generally up to 4% solids), and decant water above. Decanted water is usually directed back to the head of the plant or discharged to a surface water body (in conformance with a separate NJPDES-DSW permit). Flocculated material that settles to the bottom contains tiny colloidal and floc particles that have a wet gelatinous appearance. It is composed primarily of hydrated iron and aluminum and becomes more concentrated as it accumulates. Flocculated residual material will contain the most concentrated metals and the Department has targeted this leachate as the material that is to be monitored. By measuring filtrate from this material, the Department can infer the quality of the worst-case leachate discharged to the ground. Remaining residual material is periodically removed from the basin and is to be managed in accordance with all applicable State and Federal rules.

The initial list of chemical parameters analyzed in the original general permit was based on meetings with the regulated community to identify parameters of concern and a subsequent brief study done in 1994. The Department carried out this study to characterize the filtrate extracted from the residual material, which closely approximates the leachability of this material as it discharged into ground water in a worst-case scenario. The results of the study are shown in TABLE 1 below. This preliminary data indicated cadmium, chromium, copper and nickel are not found at detectable levels in water treatment plant residual filtrate. Of those metals that are found, only aluminum, iron, and manganese are found consistently in concentrations above Class IIA Ground Water Quality Criteria. While they are above the criteria, attenuation processes in the soil beneath the basin units is expected to reduce the concentration of these pollutants to acceptable levels in the ground water.

As suggested by the pilot study (TABLE 1) and as shown in TABLE 2 (*below*), iron, manganese and aluminum frequently exceeded the GWQS established for these parameters. Of the GWQS established for the heavy metals, arsenic was exceeded about 30% of the time, cadmium 15% of the time, chromium 28% of the time, copper 22% of the time, zinc 15%. Of the THM compounds measured, chloroform exceeded GWQS 40% of the time, dichloro-bromomethane 38% of the time, dibromochloromethane 5% of the time, bromoform 16%. It is also interesting to note that the vacuum filtration liberated the water (loosely bound to the oxide-hydroxide mixture) on average, 74% of the water by volume (as measured by the ratio volume filtrate/volume of sample). pH samples occasionally exceeded the upper pH standard about 5% of the time. There appears to be a loose correlation between the metals exceedances and surface water samples. Based upon these results, we anticipate that most of these discharges will continue to have a low environmental impact.

TABLE 1: This table displays analyses of filtrate data from residual material collected from seven NJPDES permitted water treatment plants throughout the state. Samples were collected from each facility during the months of October and November 1994 as part of our pilot feasibility study.

Constituent	Min	Max	Mean	N	STDS	CV	%ND	MDL BRIAS	IIA GWQS
Aluminum	0	1.71	0.24	14	0.56	2.35	79%	0.10	0.2
Arsenic	0	0.01	0.002	14	0.003	1.37	71%	0.001	0.008
Cadmium	0	0	0	14	0	NA	100%	0.01	0.004
Chromium	0	0	0	14	0	NA	100%	0.05	0.1
Copper	0	0	0	14	0	NA	100%	0.05	1
Iron	0	17.3	4.12	14	5.43	1.32	29%	0.05	0.3
Manganese	0.01	35	6.29	14	11.51	1.83	0%	0.01	0.05
Nickel	0	0	0	14	0	NA	100%	0.04	0.1
Zinc	0	0.02	0.01	14	0.007	0.68	21%	0.01	5

Table Notes: Min = Minimum value; Max = Maximum value; N = Number of data points; STDS = Sample Standard Deviation; CV = Coefficient of variation; %ND = the percentage of samples where there was no detectable amount of a constituent (A parameter that was not detected means that it is either not present or is present but below the Method Detection Level); MDL-BRIAS = Method Detection Level DEP Lab (Bureau of Radiation and Inorganic Analytical Services). Detection levels expressed in mg/l; IIA GWQS = Class IIA Ground Water Quality Criteria (N.J.A.C. 7:9-6) expressed in mg/l. All analyses were done by Atomic Absorption methods.

TABLE 2. Data from 25 NJPDES general permitted facilities where data was required to be collected and submitted from 11/96 to 12/99.

Constituent	Min	Max	Mean	N	STDS	CONF.	%ND	IIA GWQS
pH	6.09	10.6	7.94	71	0.768	0.0058	0	5-9
Aluminum	<0.001	6980	0.253	66	693	0.0052	32	0.2
Arsenic	<0.001	3.68	36.02	69	116.54	8.92	71	0.008
Cadmium	<0.0004	10.02	0.218	67	1.234	0.0094	74	0.004
Chromium	<0.001	56.3	1.62	66	7.319	0.056	63	0.1
Copper	<0.001	35.1	3.07	67	7.29	0.0558	31	1
Iron	<0.01	96000	6152.3	67	24906.7	192.23	6	0.3
Manganese	<0.006	2500	97.49	64	362.27	2.81	4	0.05
Nickel	<0.0016	6.14	0.377	65	0.945	0.007	56	10
Zinc	<0.001	180	8.4	63	30.07	0.227	23	5
Chloroform	0.025	1400	78.88	19	320.05	2.42	10	6
Dichlorobromomethane	0.00265	10.6	3.35	18	7.29	0.105	27	1
Dibromochloromethane	0.0005	30	2.61	18	6.98	0.103	22	10
Bromoform	<0.001	30	2.61	17	7.24	0.109	88	4
Volume Filtrate/Volume Residual	0.1	1	0.79	67	0.246	0.002	0	—

Table 2 information: Min =Minimum; Max =Maximum; Mean = Mean ***(Min, Max and Mean is expressed in mg/l for the metals data)*** ; N-total number of data points; STDS= Standard Deviation Conf.=confidence interval; %ND= % not detected; IIA GWQS = Class IIA Ground Water Quality Standard.

DISCUSSION

The data from TABLE 2 (*above*) is from 25 different potable Water Treatment Plant facilities, of varying size and complexity in terms of the treatment plant design and volume of water treated. There were approximately 70 data points for the metals analyses and about 20 for the trihalomethane compounds for the time period of November 1996 through December 1999. Some of the data points were removed as there appeared to be data recording errors and the actual numbers could not be verified. Some of the data points in the metals analyses (approximately 8-10) from just 2 WTP facilities are statistical outliers, which is believed (based upon review of pilot study data) to be attributable to sample collection error prior to laboratory analysis. It cannot be stressed enough that following the modified sample collection and analysis protocol is important to obtain the correct data. Despite this problem with a couple of facilities, the metals data does generally show that there is overall compliance with the ground water quality standards about 80% of the time. Most of the noncompliance occurs with Iron, Manganese, Aluminum, Arsenic as was predicted by the earlier pilot study. Short term outdoor storage of WTP backwash in basins is considered to be of low environmental impact.

In addition, data was collected for the 4 major trihalomethane compounds (THM's) where the source water treated is a surface water source. Generally speaking, these water treatment facilities are more complex and treat high volumes of water. In order to prevent the formation of these compounds, it is important to remove as much organic matter as possible prior to chlorination. There appears to be a pattern of lower THM formation if the water is chlorinated at a later stage in the treatment, or if an alternate disinfecting method is used as primary disinfection. Chloroform was detected 90% of the time and exceeds the GWQS about 40% of the time. A literature search done also shows that there is little data on how the THM's persist in the environment and if shallow ground water sources can have sufficient organic content to allow for some THM formation. As such, the decision was made to require everyone to monitor these THM's on an annual basis.

As mentioned above, permittees that have all lined backwash basins will not be required to do the metals analyses. The rationale behind not requiring monitoring for metals leaching out of lined basin units is simple: even if the liner develops a leak, the attenuation processes in the soil beneath the unit will reduce the concentration of the pollutants to acceptable levels in the ground water, particularly considering the metals concentration found in the filtrate. The requirement to visually inspect the basins routinely to detect tears or imperfections that could leak in the future and the periodic integrity certification requirement will be sufficient to test if there are any holes or imperfections too small to be detected by visual inspections. Any holes and imperfections found during any inspection will be required to be repaired immediately. The permittee must properly maintain the liners in order to be exempt from performing the metals analyses.

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

The New Jersey Department of Environmental Protection hereby grants you a NJPDES permit for the facility/activity named in this document. This permit is the regulatory mechanism used by the Department to help ensure your discharge will not harm the environment. By complying with the terms and conditions specified, you are assuming an important role in protecting New Jersey's valuable water resources. Your acceptance of this permit is an agreement to conform with all of its provisions when constructing, installing, modifying, or operating any facility for the collection, treatment, or discharge of pollutants to waters of the state. If you have any questions about this document, please feel free to contact the Department representative listed in the permit cover letter. Your cooperation in helping us protect and safeguard our state's environment is appreciated.

Permit Number: NJ0108642
P.I. ID#: 50577
DRAFT: Ground Water Master General Permit Renewal

Permittee:
NJDEP Division Of Water Quality
401 E. State St.
Trenton, NJ 08625

Co-Permittee:

Property Owner:
NJDEP Division Of Water Quality
401 E. State St.
Trenton, NJ 08625

Location Of Activity:
NJPDES Master General Permit Program Interest
401 E. State St.
Trenton, NJ 08625

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
I2 -Potable WTP Basins & Drying Beds			

By Authority of:
Commissioner's Office

DEP AUTHORIZATION
Ron Bannister, P.G., Supervisor
Bureau of Nonpoint Pollution Control
Division of Water Quality

(Terms, conditions and provisions attached hereto)

PART I
GENERAL REQUIREMENTS: NJPDES

A. General Requirements of all NJPDES Permits

1. Requirements Incorporated by Reference

a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.

b. General Conditions

Penalties for Violations	N.J.A.C. 7:14-8.1 et seq.
Incorporation by Reference	N.J.A.C. 7:14A-2.3
Toxic Pollutants	N.J.A.C. 7:14A-6.2(a)4i
Duty to Comply	N.J.A.C. 7:14A-6.2(a)1 & 4
Duty to Mitigate	N.J.A.C. 7:14A-6.2(a)5 & 11
Inspection and Entry	N.J.A.C. 7:14A-2.11(e)
Enforcement Action	N.J.A.C. 7:14A-2.9
Duty to Reapply	N.J.A.C. 7:14A-4.2(e)3
Signatory Requirements for Applications and Reports	N.J.A.C. 7:14A-4.9
Effect of Permit/Other Laws	N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
Severability	N.J.A.C. 7:14A-2.2
Administrative Continuation of Permits	N.J.A.C. 7:14A-2.8
Permit Actions	N.J.A.C. 7:14A-2.7(c)
Reopener Clause	N.J.A.C. 7:14A-6.2(a)10
Permit Duration and Renewal	N.J.A.C. 7:14A-2.7(a) & (b)
Consolidation of Permit Process	N.J.A.C. 7:14A-15.5
Confidentiality	N.J.A.C. 7:14A-18.2 & 2.11(g)
Fee Schedule	N.J.A.C. 7:14A-3.1
Treatment Works Approval	N.J.A.C. 7:14A-22 & 23

c. Operation And Maintenance

Need to Halt or Reduce not a Defense	N.J.A.C. 7:14A-2.9(b)
Proper Operation and Maintenance	N.J.A.C. 7:14A-6.12

d. Monitoring And Records

Monitoring	N.J.A.C. 7:14A-6.5
Recordkeeping	N.J.A.C. 7:14A-6.6
Signatory Requirements for Monitoring Reports	N.J.A.C. 7:14A-6.9

e. Reporting Requirements

Planned Changes	N.J.A.C. 7:14A-6.7
Reporting of Monitoring Results	N.J.A.C. 7:14A-6.8
Noncompliance Reporting	N.J.A.C. 7:14A-6.10 & 6.8(h)
Hotline/Two Hour & Twenty-four Hour Reporting	N.J.A.C. 7:14A-6.10(c) & (d)
Written Reporting	N.J.A.C. 7:14A-6.10(e) &(f) & 6.8(h)
Duty to Provide Information	N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
Schedules of Compliance	N.J.A.C. 7:14A-6.4
Transfer	N.J.A.C. 7:14A-6.2(a)8 & 16.2

PART II

GENERAL REQUIREMENTS: DISCHARGE CATEGORIES

A. Additional Requirements Incorporated By Reference

1. Requirements Incorporated by Reference

a. For new construction, expansion or major repairs of regulated discharge units subject to N.J.A.C. 7:14A-22 and 23, the permittee shall obtain a Treatment Works Approval. For new construction, the permittee shall obtain the necessary Treatment Works Approval(s) to design, construct and operate a discharge unit capable of meeting any limits set forth in this permit.

b. The operation of the permittee's treatment works shall be under the supervision of a licensed operator who meets the NJDEP's requirements for the appropriate classification as contained in N.J.A.C. 7:10A-1.1 et seq. unless otherwise exempted by the Department.

c. The permittee shall give written notification to the Department of any planned physical additions or operational changes to the permitted facility when the alteration is expected to result in significant changes in the permittees discharge and/or residuals use or disposal practices including cessation of discharge in accordance with N.J.A.C.7:14-6.7.

B. General Conditions

1. Operation Requirements

a. The permittee shall notify the applicable Bureau of Water Compliance and Enforcement office and the Bureau of Nonpoint Pollution Control, prior to initiating discharges from newly constructed discharge facilities.

b. Prior to any change in ownership, the current permittee shall comply with the requirements of N.J.A.C. 7:14A-16.2, pertaining to notification of change of ownership.

2. Contingency Requirements

a. When a regulated unit causes contravention of the Ground Water Quality Standards of N.J.A.C. 7:9-6, corrective measures shall be implemented to address the problem. Such measures may include more extensive monitoring of the soil and ground water, remediation of the release, or an upgrade or closure of the existing system.

b. All basin specific problems such as broken piping, side wall or liner failures shall be addressed in the approved emergency plan and used along with the guidelines set below.

c. When any basin must be removed from service for reasons other than routine maintenance or scheduled rotation which may occur due to leaks, overtopping, side wall failures or unpermitted discharges to a surface water body, the permittee shall:

i. Cease discharge to that basin area and manage the backwash water/residual material in accordance with the approved emergency plan.

ii. Eliminate the cause of the leak and contain any unpermitted discharges which have occurred.

iii. Take any and all necessary steps to stop or prevent structural failure.

iv. Contact the Department's Emergency Hotline at 1-877-WARNDEP (1-877-927-6337) within 24 hours and contact the appropriate regional Bureau of Water Compliance and Enforcement for details on follow-up reporting time frames. Note that all correspondence regarding notification and corrective actions shall be copied to the permit issuing Bureau.

v. Notify the Director of the Division of Water Quality in writing to report the situation and the remedial action taken with 10 business days. The notification shall be sent to:
Director
Division of Water Quality
P.O. Box 420
Trenton, New Jersey 08625

vi. Notify the Bureau of Engineering to determine if a Treatment Works Approval is required prior to repairing the failing basin area.

vii. Follow the emergency operations section of the facility Maintenance, Inspection, and Emergency Operations Manual.

d. In situations where the probable cause of failure or overtopping was unintentional overloading of the basin area due to unequal distribution of the discharge, or heavy rain, snow melt, etc., the permittee shall continue to manage the backwash residual in accordance with the approved emergency plan until the basin area returns to operational status. If the basin area is determined to be undersized for the intended use or due to overaccumulation of residual material, and no wastewater reserve disposal area exists, then the permittee shall propose modifications to the basin area to insure proper operation.

e. Once all emergency situations have been rectified to the satisfaction of the Department, the permittee shall perform a written evaluation as to how well the emergency plan worked, review existing maintenance records to determine if improvements need to be made and update of facility Maintenance, Inspection, and Emergency Operations Manual as needed and retain updated version onsite.

3. Residuals Management

a. The permittee shall comply with land-based sludge management criteria and shall conform with the requirements for the management of residuals and grit and screenings under N.J.A.C. 7:14A-6.15(a), which includes:

i. Standards for the Use or Disposal of Residual, N.J.A.C. 7:14A-20;

ii. Section 405 of the Federal Act governing the disposal of sludge from treatment works treating domestic sewage;

iii. The Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and the Solid Waste Management Rules, N.J.A.C. 7:26;

iv. The Sludge Quality Assurance Regulations, N.J.A.C. 7:14C;

v. The Statewide Sludge Management Plan promulgated pursuant to the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., and the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq.; and

vi. The provisions concerning disposal of sewage sludge and septage in sanitary landfills set forth at N.J.S.A. 13:1E-42 and the Statewide Sludge Management Plan.

vii. Residual that is disposed in a municipal solid waste landfill unit shall meet the requirements in 40 CFR Part 258 and/or N.J.A.C. 7:26 concerning the quality of residual disposed in a municipal solid waste landfill unit. (That is, passes the Toxicity Characteristic Leaching Procedure and does not contain "free liquids" as defined at N.J.A.C. 7:14A-1.2.)

b. If any applicable standard for residual use or disposal is promulgated under section 405(d)of the Federal Act and Sections 4 and 6 of the State Act and that standard is more stringent than any limitation on the pollutant or practice in the permit, the Department may modify or revoke and reissue the permit to conform to the standard for residual use or disposal.

c. The permittee shall make provisions for storage, or some other approved alternative management strategy, for anticipated downtimes at a primary residual management alternative. The permittee shall not be permitted to store residual beyond the capacity of the structural treatment and storage components of the treatment works. N.J.A.C. 7:14A-20.8(a) and N.J.A.C. 7:26 provide for the temporary storage of residuals for periods not exceeding six months, provided such storage does not cause pollutants to enter surface or ground waters of the State. The storage of residual for more than six months is not authorized under this permit. However, this prohibition does not apply to residual that remains on the land for longer than six months when the person who prepares the residual demonstrates that the land on which the residual remains is not a surface disposal site or landfill. The demonstration shall explain why residual must remain on the land for longer than six months prior to final use or disposal, discuss the approximate time period during which the residual shall be used or disposed and provide documentation of ultimate residual management arrangements. Said demonstration shall be in writing, be kept on file by the person who prepares residual, and submitted to the Department upon request.

d. The permittee shall comply with the appropriate adopted District Solid Waste or Sludge Management Plan (which by definition in N.J.A.C. 7:14A-1.2 includes Generator Sludge Management Plans), unless otherwise specifically exempted by the Department.

e. The preparer must notify and provide information necessary to comply with the N.J.A.C. 7:14A-20 land application requirements to the person who applies bulk residual to the land. This shall include, but not be limited to, the applicable recordkeeping requirements and certification statements of 40 CFR 503.17 as referenced at N.J.A.C 7:14A-20.7(j).

f. The preparer who provides biosolids to another person who further prepares the biosolids for application to the land must provide this person with notification and information necessary to comply with the N.J.A.C. 7:14A-20 land application requirements.

g. Any person who prepares bulk residual in New Jersey that is applied to land in a State other than New Jersey shall comply with the requirement at N.J.A.C. 7:14A-20.7(b)1.ix and/or 20.7(b)1.x, as applicable, to provide written notice to the Department and to the permitting authority for the State in which the bulk residual is proposed to be applied.

4. Abandonment Requirements

a. The permittee shall, when abandoning any existing basin units:

i. Adequately seal the influent and effluent lines.

ii. Properly clean and backfill the basin, seal outfall lines, and all mechanical and electrical equipment and piping.

iii. Submit to the Bureau of Pretreatment and Residuals, sludge quality assurance reports which are representative of the residuals removed following closure. Wherever quality information is not available, new samples must be obtained and analyzed upon closure. All residual samples and analyses shall be prepared in accordance with the Sludge Quality Assurance Regulations, N.J.A.C. 7:14C.

iv. All residual material must be removed within 180 calendar days of system closure. Proof of proper residuals management must be submitted to the Bureau of Pretreatment and Residuals within 30 calendar days of their removal. The date(s) of removal and quantities removed must be specified.

5. Obtaining Authorization under this General Permit

a. Upon reissuance of this general permit, renewal of authorizations is automatic, provided that there are no changes to the facility requiring updated information. New authorizations are processed as applications received by the Department are determined to be administratively and technically complete.

b. For facilities which are expanding existing operations or for a new facility, A NJPDES-1 form, Form R, USGS topographic map, a site plan, a technical report (including a WFM-002 form), a line drawing, a Consistency Determination letter from the Division of Watershed Management (pursuant to N.J.A.C. 7:15-8), WQM-003 form. The above to be submitted with a cover letter stating the monitoring program number for which facility is making application.

PART III
LIMITS AND MONITORING REQUIREMENTS

MONITORED LOCATION:
I201 option 1-unlined basins

ROCK FORMATION:

DISCHARGE CATEGORY(IES):
I2 - Potable WTP Basins & Drying Beds (GP)

GW Discharge WCR - Annual Reporting Requirements:
Submit an Annual WCR: within 25 days after the end of every 12 month monitoring period beginning from the authorization date.

Comments:
This monitoring program is for unlined basins.

Table III - A - 1: GW Discharge WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Volume Filtrate per Total Volume	Effluent Gross Value	REPORT	RATIO	SGRAB1	January thru December
pH	Effluent Gross Value	REPORT	SU	Grab	January thru December
Manganese, Total (as Mn)	Effluent Gross Value	REPORT	MG/L	SGRAB1	January thru December
Arsenic, Total (as As)	Effluent Gross Value	REPORT	MG/L	SGRAB1	January thru December
Cadmium, Total (as Cd)	Effluent Gross Value	REPORT	MG/L	SGRAB1	January thru December
Chromium, Total (as Cr)	Effluent Gross Value	REPORT	MG/L	SGRAB1	January thru December
Copper, Total (as Cu)	Effluent Gross Value	REPORT	MG/L	SGRAB1	January thru December
Iron, Total (as Fe)	Effluent Gross Value	REPORT	MG/L	SGRAB1	January thru December
Nickel, Total (as Ni)	Effluent Gross Value	REPORT	MG/L	SGRAB1	January thru December
Zinc, Total (as Zn)	Effluent Gross Value	REPORT	MG/L	SGRAB1	January thru December
Aluminum, Total (as Al)	Effluent Gross Value	REPORT	MG/L	SGRAB1	January thru December
Bromoform	Effluent Gross Value	REPORT	MG/L	SGRAB2	January thru December

GW Discharge WCR - Annual Reporting Requirements:
Submit an Annual WCR: within 25 days after the end of every 12 month monitoring period beginning from the authorization date.

Comments:
This monitoring program is for unlined basins.

Table III - A - 1: GW Discharge WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Dibromochloro-methane	Effluent Gross Value	REPORT	MG/L	SGRAB2	January thru December
Chloroform	Effluent Gross Value	REPORT	MG/L	SGRAB2	January thru December
Bromodichloromethane	Effluent Gross Value	REPORT	MG/L	SGRAB2	January thru December

MONITORED LOCATION:
I202 option 2-lined basins

ROCK FORMATION:

DISCHARGE CATEGORY(IES):
I2 - Potable WTP Basins & Drying Beds (GP)

GW Discharge WCR - Annual Reporting Requirements:
Submit an Annual WCR: within 25 days after the end of every 12 month monitoring period beginning from the authorizatioin date.

Comments:
This is for lined basins.

Table III - B - 1: GW Discharge WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Bromoform	Effluent Gross Value	REPORT	MG/L	SGRAB2	January thru December
Dibromochloro-methane	Effluent Gross Value	REPORT	MG/L	SGRAB2	January thru December
Chloroform	Effluent Gross Value	REPORT	MG/L	SGRAB2	January thru December
Bromodichloromethane	Effluent Gross Value	REPORT	MG/L	SGRAB2	January thru December

MONITORED LOCATION:
S13A SQAR Monitoring

DISCHARGE CATEGORY(IES):
I2 - Potable WTP Basins & Drying Beds (GP)

Location Description

A representative sample of water treatment residuals removed for ultimate management shall be obtained and analyzed pursuant to the Sludge Quality Assurance Regulations (SQAR, N.J.A.C. 7:14C).

Contributing Waste Types

Ind Residual-Water Treat

Residuals DMR Reporting Requirements:

Submit a Monthly DMR: due 60 calendar days after the end of each calendar month. In accordance with the Sludge Quality Assurance Regulations (SQAR, N.J.A.C. 7:14C), the frequency of monitoring is based upon the amount of sludge generated. Consequently, the frequency of monitoring may be reduced for individual authorizations. Also in accordance with the SQAR, the parameters to be monitored may change in individual authorizations pursuant to N.J.A.C. 7:14C-1.9(c).

Table III - C - 1: Residuals DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids, Total	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	%TS	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Nitrate Nitrogen, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Nitrogen, Kjeldahl Total, Dry Wt	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Potassium Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			

Residuals DMR Reporting Requirements:

Submit a Monthly DMR: due 60 calendar days after the end of each calendar month. In accordance with the Sludge Quality Assurance Regulations (SQAR, N.J.A.C. 7:14C), the frequency of monitoring is based upon the amount of sludge generated. Consequently, the frequency of monitoring may be reduced for individual authorizations. Also in accordance with the SQAR, the parameters to be monitored may change in individual authorizations pursuant to N.J.A.C. 7:14C-1.9(c).

Table III - C - 1: Residuals DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Nitrogen, Ammonia Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Molybdenum Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Phosphorus Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Arsenic, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Aluminum, Total (as Al)	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Selenium, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Copper, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			

Residuals DMR Reporting Requirements:

Submit a Monthly DMR: due 60 calendar days after the end of each calendar month. In accordance with the Sludge Quality Assurance Regulations (SQAR, N.J.A.C. 7:14C), the frequency of monitoring is based upon the amount of sludge generated. Consequently, the frequency of monitoring may be reduced for individual authorizations. Also in accordance with the SQAR, the parameters to be monitored may change in individual authorizations pursuant to N.J.A.C. 7:14C-1.9(c).

Table III - C - 1: Residuals DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Cadmium, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Zinc, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Lead, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Nickel, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Mercury, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Iron, Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Bromoform Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			

Residuals DMR Reporting Requirements:

Submit a Monthly DMR: due 60 calendar days after the end of each calendar month. In accordance with the Sludge Quality Assurance Regulations (SQAR, N.J.A.C. 7:14C), the frequency of monitoring is based upon the amount of sludge generated. Consequently, the frequency of monitoring may be reduced for individual authorizations. Also in accordance with the SQAR, the parameters to be monitored may change in individual authorizations pursuant to N.J.A.C. 7:14C-1.9(c).

Table III - C - 1: Residuals DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Chlorodibromomethane Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Chloroform Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			
Dichlorobromomethane Dry Weight	Industrial Residuals	*****	*****	*****	*****	REPORT Monthly Average	*****	MG/KG	1/Month	Composite
January thru December	QL	***	***		***	***	***			

Residuals WCR - Annual Reporting Requirements:
Submit an Annual WCR: due 60 calendar days after the end of each calendar year.

Table III - C - 3: Residuals WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Amt Sludge Rmvd, Wet Cubic Yards	Industrial Residuals	REPORT	WCY/YR	Calculated	January thru December
Amt Sludge Rmvd, Wet Metric Tons	Industrial Residuals	REPORT	WMT/YR	Calculated	January thru December
Amt Sludge Rmvd, Gallons	Industrial Residuals	REPORT	GAL/YEAR	Calculated	January thru December
Total Amount of Sludge Removed	Industrial Residuals	REPORT	DMT/YR	Calculated	January thru December
Solids, Total	Industrial Residuals	REPORT	%TS	Composite	January thru December

Residuals Transfer Reporting Requirements:

Submit a Monthly RTR: due 60 calendar days after the end of each calendar month.

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

Potable WTP Basins & Drying Beds (GP)

A. Monitoring Programs and Discharge Monitoring Point Selection Requirements

1. Select Appropriate Monitoring Program

a. All permittees are required to select an appropriate monitoring program solely based on whether or not the basins are lined or unlined.

b. Monitoring Program 1: When a facility has any unlined basins.

c. Monitoring Program 2: When a facility has any lined basins.

2. Discharge Monitoring Point Selection Requirements

a. The permittee shall determine the appropriate monitoring program to use based on the guidance in Part III A.1.a. (above), then shall select appropriate discharge monitoring point(s) as outlined below. All monitoring points shall be designated on the site plan to be submitted to the Department.

b. Facilities required to implement Monitoring Program 1: Two sample points shall be selected by the permittee. The first from which to collect discharge monitoring samples that best represents the typical characteristics of the recently settled (within the last month) backwash residual. The second monitoring point (for the trihalomethane compounds) should be a point best suited from which to collect a sample during backwash event.

c. Facilities required to implement Monitoring Program 2: A single sample point shall be selected by the permittee, from which to collect monitoring samples, such that a sample can be collected during a backwash event.

d. The permittee is responsible for determining the appropriate monitoring program for their facility. If the facility changes the size or number of basins, or if the facility installs, removes, or modifies basin liners, it is the responsibility of the permittee to select new appropriate discharge monitoring point(s) as needed, and to notify the Department in writing regarding facility changes in accordance with the notification requirements of this permit. This does not waive the requirement for the permittee to obtain additional Department approvals where necessary.

3. Sample Collection Requirements

a. All sampling of backwash residual (applies to metals analyses for monitoring program 1 only) shall be performed according to the methodology specified in the Department's Field Sampling Procedures Manual, except where modified by Part IV, Section B (Special Preparation Methods). If your facility is required to monitor for metals in Table 1 using the SpclGrab1 method, and there are multiple basins, collect a residual sample from each unlined basin and composite the samples prior to analysis in the Laboratory. (This applies only to Spclgrab1 parameters list for monitoring program 1).

b. Facilities required to implement Monitoring Program 1: Permittee shall collect the required volume of backwash residual material at the designated sampling point and analyze annually for specified metals; and the permittee shall also collect a separate backwash water sample while a backwash event is occurring during the sampling period and analyze for Trihalomethane compounds. All required parameters are listed in Table 1.

c. Facilities required to implement Monitoring Program 2: Permittee shall collect a backwash water sample during a backwash event in the sampling period, and analyze annually for the Trihalomethane compounds in Table 2.

d. If at any time during a discharge sampling period the permittee determines that samples or analytical results are not representative of the actual discharge, the permittee may collect and analyze more samples than required by this permit. However, the permittee is required to submit the results of all analyses to the Department. The permittee shall document and submit to the Department in writing the cause of non-representative samples. If more than one sample is taken, the average and the maximum values shall be reported on the WCR.

4. Conditions Associated with Residuals Monitoring in Part III

a. For the purposes of monitoring sludge quality, sample collection, preservation and analysis shall be performed in a manner consistent with 40 CFR 503.8 and the Sludge Quality Assurance regulations (N.J.A.C. 7:14C) unless other test procedures have been approved by the Department in writing or as otherwise specified in this permit.

B. Special Preparation Methods

1. Special Sample Collection Procedures for Spclgrab1

a. In accordance with Part IV Section A, Monitoring Program 1 will require the collection of wet settled backwash residual. Choose a designated collection point from an unlined basin where a recently (within last month) settled backwash residual material can be collected. Collect at least 1 liter of residual and preserve with ice to 4 degrees Celsius. The monitoring point is where a recent representative residual sample can be collected.

2. Special Sample Preparation and Analytical Procedures for Spclgrab1

a. The permittee shall arrange for all residual sample extractions and chemical analyses to be performed by a New Jersey Certified Laboratory. The preparation protocol listed in this section is a modification to a standard preparation procedure as listed in the E.P.A. Methods for Chemical Analysis of Water and Wastes (1) and in the Department's Field Sampling Procedures Manual.

3. Special Laboratory Instructions for Spclgrab1

a. If the facility has multiple basins used to store backwash residual, the samples must be composited into a single 1 liter sample. Methods for compositing samples are described in the most current edition of the Department's Field Sampling Procedures Manual. If the facility has only one basin, follow only steps b through i.

b. Place 1 liter residual sample in a wide mouth graduated cylinder.

c. Measure out an aliquot (2) of 500 ml from the above residual sample.

d. Place the representative aliquot of residual material into two different Buchner Funnel filtration apparatuses (minimum size 14 cm Buchner funnel), containing a mesh filter paper capable of excluding the > 2 um fraction (0.45 um membrane filter).

e. Filter using suction or vacuum of 0.1 Atm (0.01 MPa) both samples. Laboratory may use either a Vacuum Dial Gauge or a non-mercury manometer capable of measuring accurately (+/- 5 %) the amount of vacuum.

f. Continue vacuum filtration for 6 hours or until no more liquid is readily obtained. If at least 500 milliliters have been obtained before the six hours, the laboratory can stop the filtration. If necessary, the 1 liter sample can be divided into 4 aliquots of 250 milliliters and placed into 4 Buchner funnel apparatuses and filtered at the same time. The entire 1 liter sample is to be filtered.

g. Measure and record the liquid volume of filtrate to the nearest milliliter and properly discard solid materials remaining in Buchner Funnel.

h. Add the liquid volumes of each apparatus and combine liquid filtrate into a single graduated cylinder. Record the water volume as "Total Filtrate" to the nearest milliliter. Report the ratio of "Volume Filtrate" to "Total Volume" on the Discharge Monitoring Report (DMR). For example, if 800 ml of Filtrate is extracted from 1000 ml residual, then report 0.8. The minimum volume necessary to run the analyses is 100 ml.

i. Follow standard preparation methods for the analysis of the liquid filtrate. After digestion, the liquid filtrate may be analyzed by either Flame Atomic Absorption Spectroscopy(3) or Inductively Coupled Plasma Atomic Emission Spectroscopy(4) for the following metals: Fe, Mn, Cr, Al, Cu, Cd, Ni and Zn; and for As by Graphite Furnace Atomic Absorption Spectroscopy(5). Please be advised that for the purposes of data comparison, the Department prefers that the Certified Laboratory uses the same methodology (either AA methods or ICP) for the duration of this permit. The methodology used shall be capable of measuring the parameter to the "higher of PQLs and Ground Water Quality Criteria" as described in the Ground Water Quality Standards (N.J.A.C. 7:9-6). Report all results to the Department on the DMR (or electronically) as required.

C. Reporting Requirements

1. Conditions Associated with Discharge Monitoring in Part III, Tables 1, 2, 3 and 4

a. After completion of the sample collection, and analytical requirements above, the permittee shall submit discharge monitoring data on preprinted monitoring forms provided by the Department. The WCR forms shall be postmarked no later than the 25th day of the month following the completed monitoring period and received by the Department no later than the first day of the following month. The monitoring period begins the first day of the first sampling month through the last day of the last month. For example, a sample required to be taken Semi-Annually beginning in January shall be postmarked by July 25. Failure to submit sampling data on the proper forms shall be considered by the Department to be a violation of the permit sampling requirements and may place the permittee subject to civil and administrative penalties pursuant to N.J.S.A. 58:10A-10 et seq..

b. All completed monitoring forms shall be submitted to:
Division of Water Quality
Bureau of Permit Management
Monitoring Reports Unit
PO Box 420
Trenton, New Jersey 08625

c. Note: The Department is developing an optional procedure that will allow for the electronic submission of filtrate monitoring data. The Department will notify permittees when this option becomes available. Permittees may then request, in writing, to submit monitoring data electronically in lieu of submitting the the preprinted forms required above.

2. Additional Conditions Associated with Residuals Monitoring in Part III

a. For purposes of reporting sludge quality, the permittee shall report monitoring results on the DMR's or other monitoring report forms where forms are specified, and all applicable information required on the forms shall be entered in the manner specified therein before submission.

b. Residuals DMR's or other monitoring report forms where forms are specified are due on or before the first day of the third month following the last day of the reporting period.

D. Recordkeeping Requirements

1. Conditions Associated with Residuals Monitoring Requirements in Part III

a. The permittee shall retain records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports, and all data used to complete the application for this permit.

b. Records of monitoring information shall include the date, locations and time of the sampling or measurements, the individual who performed the sampling or measurements, the date the samples were collected, the date the samples were analyzed, the individual who performed the analysis, the analytical method used, and the results.

c. The permittee shall retain copies of all reports required by a NJPDES permit and records of all data used to complete the application for a NJPDES permit for a period of at least 5 years unless otherwise required by 40 CFR Part 503.

d. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to enter a persons premises for the purpose of inspection and to access /copy any records that must be kept under the conditions of this permit.

E. Submission Requirements

1. Site Plan

a. Within one hundred twenty (120) days of the permittee's initial authorization date and thereafter within 90 days of whenever site conditions change, a plot plan of the facility shall be submitted to the Department. The plot plan shall include:

i. Legal site boundaries surveyed by a New Jersey licensed land surveyor within the last twelve (12) months. If the permittee has a survey of the property which is older than one (1) year, the survey may be submitted to fulfill this requirement if the survey is signed and sealed by a New Jersey licensed land surveyor certifying that the survey reflects the current site boundaries as measured by the latest standards.

ii. The location of all basins. Each basin shall be identified as Basin #1, Basin #2, etc. The plot plan shall also indicate whether the basin is lined or unlined, the exact location of all required discharge monitoring points including a description of the sampling device if applicable, and whether there are any outfalls to or from other basins regulated by this permit and the locations where those outfalls discharge.

iii. To the extent practicable, the location of all site(s) involved in the storage of residuals and the ultimate disposal site(s) of all residual materials removed from any basin.

2. Exceedances of Ground Water Quality Criteria

a. Within one hundred eighty (180) days after a permitee initially becomes authorized under this general permit, the permittee shall prepare a Maintenance, Inspection, and Emergency Operations Manual. This manual will enable the permittee to establish or review their maintenance and inspection practices for site specific discharge activities, including processes of pollutant generation and conveyance to the discharge units. The purpose is to encourage the permittee to assess site operations, and outline site specific policies and procedures which can help maintain efficient operations and address possible emergency situations. The manual must identify the types of pollutants being discharged and shall address their potential impact on the public health and the environment in emergency situations. The manual will specify what steps will take place in the event of an emergency. The Maintenance, Inspection and Emergency Operations Manual (hereinafter referred to as the manual) shall include, at a minimum, the following provisions:

i. A list of pollutants generated and discharged to all regulated units.

ii. The submittal of Material Data Safety Sheets (MSDS) of all process related chemicals. In addition, a detailed evaluation of the types of chemicals used in the water treatment process. This evaluation will require the permittee to obtain detailed chemical analyses (either from the manufacturer or perform their own evaluation) to determine the relative concentration of impurities in the chemical(s) used in the process. For example, if a coagulant used has a high percentage of arsenic and the filtrate quality monitoring shows a discharge in excess of the Class II-A criteria for arsenic (or SQAR reports reveal a trend of high arsenic), then the facility should use a coagulant with a lower percentage of arsenic in order to meet the ground water quality criteria for that parameter or the facility will be required to obtain an individual permit. If coagulants are changed as a compliance or facility decision, this information needs to be submitted within 180 days of this change.

iii. A schedule of maintenance and inspections of all on-site process areas. These areas include the pollutant generation sources, conveyance, and discharge to the regulated unit(s).

iv. Schedule for periodic removal of residual and designation of ultimate management sites;

v. Review and incorporate the requirements established by the permit in Part IV for unit-specific maintenance and inspection.

vi. Assessment of emergency situations that may affect the discharge activities. The permittee shall, as part of the emergency plan, perform a vulnerability analysis of the entire pollutant generating and conveyance mechanisms to the final discharge point(s). Assess the degree to which these systems can be affected by (but not limited to) the following situations: natural disasters (e.g., floods, severe rains), civil disorder, strike, sabotage, faulty maintenance, negligent operation or accident. The analysis shall address at least the following:
   a. Power supply
   b. Communication
   c. Equipment
   d. Supplies
   e. Personnel
   f. Security
   g. Emergency procedures

vii. Emergency procedures shall include correcting emergency situations and notification of licensed haulers, appropriate regulatory agencies, local health departments, appropriate municipal authorities and/or other agencies.

viii. The location of any on-site temporary or permanent pollutant storage areas. This includes chemical storage areas and/or backwash residual storage areas. All pollutant storage areas must be properly constructed and/or maintained in conformance with all applicable State and Federal rules.

ix. Provisions for managing the backwash water and residual until the regulated unit can be returned to operational status. The permittee may investigate agreements with a licensed company that will haul pollutants on an as-needed basis as well as a written agreement with a regulated facility which shall receive those materials.

x. The emergency procedures shall address the ability of any Department-approved emergency reserve discharge basin(s) to accept and treat (if appropriate) the given volume of pollutants, and the ability to monitor for permit compliance.

b. All records of maintenance and inspections must be kept on site at all times and be available for inspection upon request by the Department.

c. The permittee must educate all appropriate personnel and licensed operators (as applicable) as to the contents and procedures of the Maintenance, Inspection and Emergency Operations Manual to insure proper implementation.

d. The most up to date version of this manual must be kept on site at all times.

e. Failure to prepare and update manual or implement the conditions listed in the manual is considered to be a permit violation.

f. After any emergency situation has been corrected, the permittee shall review the emergency procedures in place and update if the current procedures are inadequate.

g. The Maintenance, Inspection and Emergency Operations Manual and any required information is to be retained onsite. Only if requested by the Department shall it be submitted to the following address:
   NJDEP- Division of Water Quality
   Bureau of Nonpoint Pollution Control P.O. Box 420
   Trenton, New Jersey 08625

3. Closure Notification Procedures

i. The permittee shall notify in writing the appropriate Regional Bureau of Water Compliance and Enforcement no less than 180 days prior to the expected closure of the regulated unit requesting current closure requirements. The permittee upon receipt of these requirements shall submit a proposed closure plan to the permit issuing bureau for review and approval.

4. Exceedances of Ground Water Quality Criteria

a. If the results of testing for any of the parameter(s) in the tables indicates an exceedance of the Ground Water Quality Criteria (N.J.A.C. 7:9-6) at the facility's location (except Aluminum, Iron, Manganese), the permittee shall address these exceedances in accordance with the requirements of this permit.

b. If the Department has reason to believe a basin and/or materials stored therein may create a discharge to ground waters of the State that contravenes the criteria established in the Ground Water Quality Standards (N.J.A.C. 7:9-6), corrective actions shall be required by the Department. Such measures may include further monitoring of the soil and ground water, installation or repair of liners, alteration or closure of the existing basin(s).

c. The permittee shall, upon notification from the Division of Water Quality, submit a compliance plan to comply with the Ground Water Quality Standards (N.J.A.C. 7:9-6). The plan shall include, at a minimum, at least one of the following options:

i. Additional pretreatment of the filter backwash or Installation of liners in all basins on-site; or

ii. Use of alternative coagulant compounds to improve the quality of the discharge; or

iii. Cessation of the discharge or alternate management and disposal plans.

d. Implementation of a corrective measure listed above will require the submittal of a Treatment Works Approval application (options b and c may require additional Department approvals, depending upon the option). Implementation of any Department approved plan to remedy violations of ground water quality standards shall be required within three (3) months of the approved compliance plan, unless an alternate time frame is approved by the Department.

F. Conditions Applicable to Operation and Maintenance of all WTP Backwash Basins

1. Operation and Maintenance

a. The permittee shall perform a physical inspection of all visible portions of all basin(s) on at least a weekly basis and after storms (at least a 2 year, 24 hour storm event at a station closest to your facility) to:

i. Ensure that the liner material (if applicable), banks and dikes have remained structurally sound;

ii. Detect evidence of any deterioration, malfunctions or improper operation of the over-topping control system;

iii. Detect sudden drops in the level of the basin contents;

iv. For lined basins, detect the presence of liquids in the leak detection system, if applicable; and

v. Detect erosion or other signs of deterioration in banks, dikes or other containment devices.

vi. When malfunctions or failures are observed or suspected, the permittee shall comply with their approved Maintenance, Inspection and Emergency Operations Manual.

b. All basin areas must be fenced or access otherwise restricted to prevent unauthorized access or entry.

c. The dikes, banks or berms of the basin(s) shall be free of vegetation where the root system could disrupt the earthen materials upon which the structural integrity of the berm or dike is dependent.

d. No basin that has been removed from service due to structural collapse or overtopping may be restored to service unless that portion of the basin which failed was repaired. Contact the Bureau of Construction and Connection Permits to determine if the repair or alteration requires a Treatment Works Approval.

i. If any basin was removed from service due to actual or imminent bank or side wall failure, a New Jersey licensed Professional Engineer shall certify by signature and seal the structural integrity of the bank and side wall prior to the redirection of flow to the basin. Said certification shall be received by the Department prior to resuming discharges to the basin.

ii. If, in the judgment of the Department, the original basin system or portions thereof were insufficient or inadequate, the permittee shall propose a new upgraded basin(s). The new basin(s) shall be installed upon issuance of a TWA from the Bureau of Construction and Connection Permits. A new site plan shall be submitted along with any necessary revisions to the approved Maintenance, Inspection, and Emergency Operations Manual.

iii. If any basin was inactive for more than six months, the permittee shall obtain a certification from a New Jersey licensed Professional Engineer that it is structurally sound. The certification shall be signed and sealed by the New Jersey licensed Professional Engineer and shall certify that the banks, dikes, and foundation of the basin will withstand the physical and chemical stresses of resumed operation. If the basin is lined the certification shall also state that the lined basin will not discharge to ground water.

iv. If the inactivity is due to an intermittent or seasonal discharge, a certification will not always be necessary if the facility has been conducting inspections of the banks, berms, and liners, if present. These records shall be submitted in lieu of the certification required in 4c above.

e. Any basin removed from service due to failure or being out of operation for an extended period may not become operational unless all necessary repairs or alterations have been completed to the satisfaction of the Department. The Department reserves the right to inspect the basin prior to, during and after repairs are made. If, in the judgment of the Department, the basin bottom, side walls, dikes or liner is insufficient or inadequate for the operations at the facility, The permittee shall upgrade or reconstruct the basin and/or install an upgraded or new liner subsequent to review and approval by the Department.

f. Unpermitted overflow systems from any unlined or lined basins is not allowed.

2. Construction Requirements for New or Upgraded Basins

a. All basins shall be constructed, maintained and operated to prevent overtopping and/or side wall failure. In addition, permittees with lined basins shall also be required to demonstrate the integrity of the liner material.

b. A Treatment Works Approval (TWA) shall be required for new construction, expansion or installation of liners proposed to an existing basin.

c. All interconnections between basins shall be constructed in a manner that will prevent degradation of the basin system. The use of splash aprons, rip-rap, etc., shall be employed in areas subject to influent flow. All flow shall be directed along the longest axis of the basin(s) whenever possible.

d. All piping, manholes, outfalls, etc., must be installed prior to construction of the foundation, banks or dikes. For lined basins, the liner should be the last component installed.

e. All new or upgraded basins shall be designed and constructed to provide a minimum freeboard of two feet.

f. During construction and installation, soil based and admixed liners must be inspected for imperfections including lenses, cracks, channels, holes, thin spots, or other imperfections. After construction has been completed, a final inspection shall be conducted prior to integrity testing. In cases where imperfections are found, the permittee shall make corrections prior to initiating discharges to a lined basin.

g. The foundation, banks and dikes must be inspected immediately after installation for any imperfections. The structural integrity of the basin shall be certified by the signature and seal of a New Jersey licensed Professional Engineer. When the basin is lined, the foundation, banks, and dikes shall be constructed to support and prevent failure of the liner. A copy of the certification shall be supplied to the permit issuing Bureau prior to any discharge of filter backwash water to the basin.

3. Conditions Applicable for the Operation and Maintenance of Unlined Basins

a. Unlined basins can be re-contoured to provide minor (less that 10%) additional storage capacity, correct minor side wall and berm defects, alter side wall slope or similar changes or corrections after notifying the permit issuing bureau in writing of the proposed changes. Notification shall include the submittal of plans for the proposed change and an estimated time for completion. Written approval from the Department is not required for minor changes.

4. Conditions Applicable for the Operation and Maintenance of Lined Basins

a. If leak detection systems are employed, the permittee shall collect and remove pumpable liquids in the sumps of the leachate collection system to minimize the head on the bottom liner.

b. A protective cover shall be maintained on earthen dikes to prevent erosion and to maintain their structural integrity.

c. A licensed New Jersey Professional Engineer must certify that all lined basins authorized under this general permit have a continuous layer of natural or man-made material on the bottom and sides which restricts the downward and lateral transmittal of pollutants and is designed to hold an accumulation of liquid and solid wastes. This certification must be based on a complete inspection and testing either witnessed or performed by the Professional Engineer. This certification is required to be submitted to the Department within 6 months of the date of authorization for this general permit. Please be advised that the renewal application for this general permit will require re-certification performed within one year prior to permit expiration. This certification must be included in the permit renewal application. If the liner material is repaired, altered or replaced during the life of this permit, a new or amended certification must be submitted.