

ML - Morris County Fair Housing Council  
vs. Bornton  
- Rockaway

Feb 28, 1984

Supplemental  
~~Report~~ expert report to "Preliminary Report Rockaway Township" (26)  
- Expert Report "Tab No. 1 Preliminary Report Rockaway Township"

Pgs. 300

~~Notes:~~ expert report

ML 000818E

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February 28, 1984

The Honorable Stephen Skillman, J.S.C.  
Middlesex County Court House  
New Brunswick, New Jersey 08903

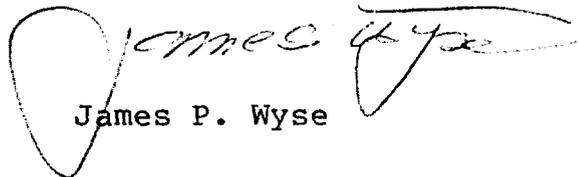
Re: Morris County Fair Housing  
Council, et al. v. Boonton  
Township, et al.  
Docket No. L-6001-78 P.W.

Dear Judge Skillman:

I enclose herewith the supplemental expert report of Lee T. Purcell Associates submitted on behalf of Rockaway Township in connection with the above matter. For the Court's information, Mr. Purcell's previous report has been updated as to certain gallonage allocation numbers and is included as Exhibit 1 within the enclosed supplemental report.

By copy of this letter, I will forward the enclosed to counsel for plaintiffs.

Respectfully,



James P. Wyse

JPW:lew

Enclosures

cc: All attorneys on attached list (w/out enc.)  
Stephen M. Eisdorfer, Esq. (w/enc.)

Parties and Intervenors  
Morris County Fair Housing Council, et al.  
vs. Boonton Tp., et al.  
November 1, 1983

Plaintiffs

Morris County Fair Housing Council  
Morris County Branch, NAACP  
Public Advocate of New Jersey

Attorney

Stephen Eisdorfer  
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Defendants

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Morris Township

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Mount Olive Township

Herbert A. Vogel  
Vogel & Chait  
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Morristown, NJ 07960

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Alfred Villoresi  
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Peguannock Township

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Slingland, Bernstein & VanHartog  
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Randolph Township

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Rockaway Township

~~Fredric Sirota  
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250 Madison Avenue  
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Joseph Vecchio  
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64 Diamond Spring Road  
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Intervenors (Regional issues only)

~~Crosskill Borough  
(Bergen County)~~

~~Kurt E. Johnson  
119 Rock Road  
Glen Rock, NJ 07452~~

Franklin Township  
(Somerset County)

Thomas J. Cafferty  
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21 Main Street  
Clinton, NJ 08809

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73 Main Street  
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February 10, 1984

Mr. James P. Wyse, Esq.  
Wiley, Malehorn and Sirota  
250 Madison Avenue  
P.O. Drawer 210 C  
Morristown, N.J. 07960

Re: Your Letter Dated December 22, 1983  
Rockaway Township: Fair Housing Suit

Dear Mr. Wyse:

This document has been prepared in response to your letter of December 22, 1983 and our subsequent conversations and meetings.

I. I have updated my preliminary report entitled, "Preliminary Report Rockaway Township, Revised February 1984, see Tab No. 1.

II. I have reviewed the report entitled, "An Analysis of Ecological Planning Issues Related to Land Capability for High Density Housing in Morris County, New Jersey", A Report Prepared in Support of Morris County Fair Housing et al v Boonton Township et al for Division of Public Interest Advocacy NJ Department of Public Advocate, prepared by Rogers, Golden, and Halpern, Inc. 1427 Vine Street, Philadelphia, PA 19102, dated October 27, 1983, from a sanitary engineering view point.

I wish to make several observations and comments that I feel have significant bearing on the subject litigation. For clarity, I shall quote from the report in bold letters followed by my comments in regular type.

\* \* \* \* \*

Reply to:  
Paterson   
Franklin

Rogers, Golden, and Halpern, Inc., Page 3

The difficulty in setting absolute constraints on land uses is well illustrated by what different states have done to determine special land areas known as "critical areas." Critical areas are areas that have unique or exemplary natural qualities, pose major hazards to people, or contain economically renewable resources (1). States have had a difficult time formulating ways to identify and evaluate areas that should be absolutely protected from development. Most States have, through regulations, recognized and made efforts to protect wetlands, habitats of protected wildlife species, unusually scenic areas, historic areas, hazard prone areas and the like, but relatively little land is administratively removed from all development. For areas not viewed as "critical" to protect, environmental planning should proceed with a rational method of data collection and analysis. Alternative site locations and designs for different uses should be considered that balance environmental and social benefits and costs. Environmental planning must look at land use decisions with the view that the landscape is a mosaic that provides opportunities, limitations, and constraints for development.

LTPA RESPONSE

Reference is made to Presidential Executive Orders (See Tab No. 2 and Tab No. 3), where it is declared that no federal funds will be granted to projects developed in wetlands and floodplains.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 3

For example, areas in which soils have high water tables, such as wetlands, provide recreation and education amenities while

performing important natural functions, such as water storage and filtration, which help maintain regional stream flows and biological and chemical water quality. Development directly in wetlands can have a significant adverse impact on the environment because of the critical role wetlands have in the many natural functions. Wetlands can be logically viewed as an absolute constraint for development.

LTPA RESPONSE

USEPA concurs fully in the above statement in that they bar connection to any federally funded water pollution control facilities for development occurring in wetlands. See Tab No.4, which is an example of USEPA's Special Grant Condition (Part 111b, Para. 2b), to a municipal grantee.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 5

The extent of the project determines how much area must be made suitable for development and, in turn, how much land with limitations must be dealt with. The intensity of development determines how many units will share common costs of the development, however, it also influences cost in a more subtle way. Intensive development has different, and usually more cost effective, arrangements of utilities, roads and parking. The combination of more units of development per unit of improvements and more selectivity in using favorable parts of the site makes higher density development better able to deal with some cost-based limitations.

LTPA RESPONSE

This statement is an oversimplification and neglects to recognize the assimilative capabilities of the surface waters and soils for

water pollution control facilities effluents, as well as NJDEP's  
Water Quality Standards, See Tab No. 5.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 6

**Operation**

- disposal of waste
- consumption of water

**LTPA RESPONSE**

LTPA has practiced consulting sanitary engineering for over 40 years and most of our municipal water and waste water projects evolved due to the proliferation of development in vacant lands without adequate water and wastewater facilities. As population densities increase so do the water supply and waste disposal problems. USEPA infers in PRM 78-9, density of 10 or more people per acre requires central sanitary sewers, see Tab No. 6.

Most often disposal of waste and supply of water ultimately becomes a significant municipal problem.

It is my considered opinion that any development density with 10 people or more per acre requires a central sanitary sewer system and a water pollution control plant.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 6

Long-term impacts are associated with the site characteristics after development, such as impervious cover due to roads and parking lots, and the rate, volume, and quality of water that these surfaces shed. Other long-term impacts relate to air quality, vegetation, and wildlife.

LTPA RESPONSE

This statement does not go far enough, it should be expanded to include water supply and waste disposal. Also refer to prior paragraph on "Operation".

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 7

For impacts that are relatively insensitive to design and site characteristics (e.g., sewage generation and water consumption) a broad-based planning approach is valuable. Review of these at the development proposal stage is almost perfunctory--for example, does adequate sewage treatment capacity exist? On the other hand, many potential impacts are sensitive to site and design considerations. Water-related or hydrologic impacts are an example.

LTPA RESPONSE

The above statement is entirely too general, in that, the size and density of a development greatly impacts sewage generation and water consumption.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Pages 7 & 8

With regard to problems of water quality caused by development, the key here is that if storm runoff is allowed to percolate through the soil, it will be purged of nearly all undesirable components. This is illustrated by the ability of soils to renovate waste water from sewage treatment plants and from industry, a practice that has been extensively studied. Soil has the ability to remove phosphorus, pathogenic organisms, heavy metals, pesticides and other compounds such as oil, grease and gasoline. This capability of the soil is

why properly installed septic tanks work well as individual sewage disposal systems.

LTPA RESPONSE

The above statement is a total generalization and is flawed. The above practice may have been extensively studied, but in reality severe problems of groundwater pollution are occurring and are being publicized throughout New Jersey and the nation, see Tab No. 7. I also quote EPA Handbook entitled, Alternatives for Small Wastewater Treatment System, On-Site Disposal, Septage Treatment and Disposal, dated October, 1977, as follows:

"Thus, the first step in designing community wastewater facilities is to characterize the local environment. Once it is determined what disposal media are available, systems can be designed to fit for cost-effective comparisons. This requires a knowledge of the receiving environment's waste assimilation capabilities. Federal and State regulatory agencies have already set effluent standards for surface waters. The assimilative capacities of soil and ET systems are poorly understood, however, and need to be reviewed."

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 9

Thus, it is difficult to develop zoning classifications that fairly and effectively incorporate a factor such as impervious ground cover, with the intention of controlling a result, such as runoff. Rather, a detailed site plan review is required to ascertain the actual volume, rate and quality of runoff from a site under various

storm conditions. The focus should be on how a site performs, not exclusively on where it is. A well designed site plan can mitigate the majority of these problems at reasonable costs.

LTPA RESPONSE

The above statement is much too general. Potable water and ultimate waste disposal are very often major problems in years following development.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 10

With regard to environmental impacts, higher density planned development provides significant environmental advantage over sprawl through:

- Less air pollution resulting from reduced automobile travel,
- More efficient use of resources,
- Conservation of open space,
- Preservation of significant wildlife and vegetation habitats, and
- Less storm water runoff, sedimentation, and water pollution.

LTPA RESPONSE

High density development (10 or more people per acre) can create very serious water pollution problems in Headwater areas where the assimilative capacities of the receiving streams are extremely limited as is the case in Rockaway Township.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 10

To be consistent in its environmental goals, a community that excludes high density residential uses must logically exclude commercial and industrial uses, and any other use (such as schools) that require extensive construction, concentration of people, and extensive impervious surfaces.

LTPA RESPONSE

The above statement is incorrect, in that, every community has existing needs that must be cared for prior to new development.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 13

Step 3. Establish criteria for particular land use.

In the planning process, criteria are the standards used to determine boundaries between adequate and inadequate conditions, between superior and less than superior conditions, and between factors that are and are not of special concern. Criteria remain abstractions until applied to a data set, at which point they take on a spatial significance.

LTPA RESPONSE

In regard to water pollution control, NJDEP establishes the Stream Discharge Standards (Criteria) for effluent limits for sewage treatment plants. These criteria are specific and not abstract. See Tab No. 5, NJDEP's Water Quality Standards.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 15

Step 4. Prepare and document data maps.

To be of any use, data applicable to each of the relevant factors identified in Step 1 must be available. If, for example, wetlands, as

a factor of concern, are to be incorporated into the planning process, then data on them--their extent, location, relative value, etc.--are required in forms that allow use of wetlands as a factor in identifying land for a particular use. The steps below further elaborate on this.

LTPA RESPONSE

The development in wetlands is prohibited when federal assistance from USEPA is used in financing sewer utilities. See Tab No. 2 and Tab No. 4.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 16

The degree of limitation presented by an area is relative and somewhat subjective. Limitations can be overcome by reasonable mitigation techniques.

LTPA RESPONSE

This is an incorrect statement. Some, but not all, limitations can be overcome.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 17

In planning for the development of a region, the allocation of land uses to particular parcels or areas of the region is usually based on analysis of the environmental opportunities and limitations of each area as well as other considerations including available water supply, infrastructure, access, traffic and growth projections.

LTPA RESPONSE

Available water supply and available infrastructure (sewerage utilities) are a vital concern when planning for development of a region.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 20

Areas where the seasonal high water table is at or near the surface are classified as wetlands and are protected by various New Jersey and federal regulations. Wetlands are recognized for their value as wildlife habitat, for flood control and storm water management, and for protecting water quality of adjacent water bodies by trapping and removing sediments and pollutants. Removal of wetlands, where permitted, risks the loss of these benefits.

LTPA RESPONSE

I concur in the above statement and refer to Tab No. 4, attached to show the reader where the State of New Jersey and USEPA enforce prohibition of development in wetlands.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 20

The shallower the water table, the less unsaturated zone there is to filter and renovate pollutants that infiltrate the soil surface before they reach the water table.

LTPA RESPONSE

The renovation process pollutes the soil to some degree. Soil has an assimilative capacity which must be recognized. I quote from EPA Handbook entitled, Alternatives for Small Wastewater Treatment System, On-Site Disposal, Septage Treatment and Disposal, dated October, 1977, as follows:

"Thus, the first step in designing community wastewater facilities is to characterize the local environment. Once it is determined what disposal media are available, systems can be designed to fit for cost-effective comparisons.

This requires a knowledge of the receiving environment's waste assimilation capabilities. Federal and State regulatory agencies have already set effluent standards for surface waters. The assimilative capacities of soil and ET systems are poorly understood, however, and need to be reviewed."

Extreme care must be taken not to pollute our groundwater aquifers. NJDEP has rigorous standards in this regard. See Tab No. 8 and Tab No. 9. Also USEPA designates Sole Source Aquifers. The Buried Valley Aquifer has been designated a Sole Source Aquifer by USEPA, see Tab No. 10. Ninety percent (90%) of Rockaway Township lies within this area. Therefore, any development being considered must take special cognizance of groundwater pollution abatement.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 20

This situation is most common for on-site sewage disposal (septic) systems, however, the density of development proposed makes the systems unrealistic and therefore they are not considered in this discussion.

LTPA RESPONSE

I agree with this statement.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 21

A high water table usually increases the amount of water infiltrating into sanitary sewers. This water combines with sewage and increases the required capacity and cost of wastewater treatment facilities.

LTPA RESPONSE

This statement is incorrect when referring to properly installed sanitary sewer systems constructed within the last 20 years and new systems being constructed in accordance with good construction practices.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 21

The environmental problems are most difficult to mitigate when the water table is at or near the surface (i.e., in a wetland). The legal protection applied to wetlands can possibly be provided by replacing lost wetlands with man-made similar habitat.

LTPA RESPONSE

This statement is incorrect. Wetlands cannot be developed where Federal assistance is used directly or indirectly. See Tab No. 2, Presidential Executive Order; Tab No. 4, Special Grant Condition; and Tab No. 11, Grantee (Denville and Rockaway Valley Regional Sewerage Authority) Communications Relative to USEPA Special Grant Condition Regarding Wetlands.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Pages 22 thru 26

LTPA RESPONSE

The text on the above pages are very general. Many construction problems, i.e. water and rock excavation, can be overcome, but it must be pointed out that long-term problems of water supply and waste disposal may take several years to appear and ultimately become municipal problems. A single development standing alone might be alright, but may be inadequate when adjacent lands are developed.

\* \* \* \* \*

**Rogers, Golden, and Halpern, Inc., Page 27**

However, in Morris County slopes exceeding 15 percent do not occur that frequently.

LTPA RESPONSE

This statement is extremely general and entirely too broad. Slopes exceeding 15 percent occupy approximately 12 percent of the land area in Rockaway Township.

\* \* \* \* \*

**Rogers, Golden, and Halpern, Inc., Page 32**

The development would require public water and sewer (or a package treatment plant).

LTPA RESPONSE

This statement is partially correct. However, the use of package treatment plants in Rockaway Township may not be allowed even on an interim basis. See Tab No. 12, for Rockaway Township's Service Contract with the Rockaway Valley Regional Sewerage Authority, dated July 1, 1976, Pages 14, 25, 26, and 27. Tab No. 8, entitled, "Regulations Concerning the New Jersey Pollutant Discharge Elimination System" wherein it states on Page I-4, Section 1.4(d), Subchapter 1, that any proposal regarding sewer utilities must be consistent with the 201 Facilities Plan, 208 Plan and 303e Basin Plans.

\* \* \* \* \*

**Rogers, Golden, and Halpern, Inc., Pages 32 thru 36**

**Case Study: Hanover Township**

LTPA RESPONSE

This case study has no bearing on the development concerns of and in Rockaway Township.

\* \* \* \* \*

Rogers, Golden, and Halpern, Inc., Page 36

References

LTPA RESPONSE

The five references used in the above report reflect a very broad and general concept. In New Jersey and Morris County and Rockaway Township there are many very specific studies, i.e. New Jersey 303e Basin Plan, Morris County 208 Studies, and Rockaway Valley Regional Sewerage Authority 201 Facilities Plan, which set forth narrow limits on population growth and future water and waste water facility requirements. It is unfortunate Rogers, Golden, and Halpern, Inc. did not incorporate these documents and concepts into their reporting.

\* \* \* \* \*

III. I have reviewed the Report entitled, "Water Supply and Pollution Control in Morris County, New Jersey" by John D. Keenan, PhD., Associate Professor, Department of Civil Engineering University of Pennsylvania, Philadelphia, PA 19104, from a sanitary engineering viewpoint. I wish to make several observations and comments that I feel have a significant bearing on the subject litigation. For clarity I shall quote from the report in bold letters followed by my comments in regular type.

\* \* \* \* \*

**Keenan Chapters I & II Pages 1 thru 25, inclusive.**

LTPA RESPONSE

Mr. Keenan is much too general in these chapters. His approach is simplistic and misleading. It is obvious that he has not referred to NJDEP's 303e Basin Plan, Morris County's 208 Studies, nor Rockaway

Valley Regional Sewerage Authority's 201 Facilities Planning documents, as they bear on developmental considerations in Rockaway Township. His concept of using package plants is wrong.

\* \* \* \* \*

Rockaway Township has a Service Contract with the Rockaway Valley Regional Sewerage Authority, dated July 1, 1976, (See Tab No. 12, Pages 14, 25, 26, and 27), which bars Rockaway Township for going into the business of sewage treatment.

There is a package sewage treatment plant in operation in Rockaway Township for the Rockaway Town Square Mall. NJDEP issued a construction and operating permit to the owners of the package plant with a special condition stating that when regional water pollution control facilities of the Rockaway Valley Regional Sewerage Authority are available, this package treatment plant will be abandoned and tied into the regional system. See Tab No. 13.

Rockaway Valley Regional Sewerage Authority has completed its 201 Facilities Planning which includes approximately 90 percent of the land area of Rockaway Township. It has been reported that the Rockaway Valley Regional Sewerage Authority has allocated 4.1 mgd sewage flows to Rockaway Township. At the present time, Rockaway Township has a total of 3.2 mgd existing and committed sewage flows, See Tab No. 1. It is pointed out that the amount of uncommitted sewage flow allocation in Rockaway Township equals approximately 900,000 gpd. This flow can be distributed to residential, commercial, and industrial type developments. It is my opinion that any development in Rockaway Township requiring central sewers must stay within the Rockaway Valley Regional Sewerage Authority's maximum

allocation for Rockaway Township. All other development in Rockaway Township must be a type not requiring central sewers and must conform to NJDEP's Standards for the Construction of Individual Subsurface Sewage Disposal Systems, Effective July 1, 1978. Any discharge of effluent from a package plant would effect an equivalent reduction in the amount of uncommitted sewage flow remaining to Rockaway Township from the Rockaway Valley Regional Sewerage Authority.

As you are aware, the Township's water supply (well water) has been crippled by contamination. NJDEP ordered certain of these wells closed. At this time, a very sophisticated surface water treatment plant is being used by the Township to treat this contaminated well water prior to use by the residents of the Township.

Ninety percent (90%) of the land area of Rockaway Township lies within a Sole Source Aquifer designated by USEPA and called the Buried Valley Aquifer. See Tab No. 10.

In 1974, Congress passed the Safe Drinking Water Act, which in part provided that:

If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register. After the publication of any such notice, no commitment for federal financial assistance (through a grant, contract, loan guarantee, or otherwise), may be entered into for any project which the Administrator determined may contaminate

such aquifer through a recharge zone, so as to create a significant hazard to public health, but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.

Section 1424(e)

BURIED VALLEY AQUIFER

SOLE SOURCE AQUIFER DESIGNATION

Within the Passaic River Basin, the most productive and intensively used aquifers are the buried valley, or valley-fill aquifers of the Central Valley of the Passaic River in northern New Jersey. (Report entitled, "Hydrogeology of the Buried Valley Aquifer System" by the Passaic River Coalition (PRC), dated 1983 is available from the Coalition at 246 Madisonville Road, Basking Ridge, N.J. 07920, Telephone (201) 766-7500).

The Buried Valley Aquifers form an extensive network of narrow channeled sand and gravel deposits through which large quantities of water flow. They are most heavily concentrated in eastern Morris County and western Essex County.

Aquifers supply the majority of water used in a number of these municipalities and serve a population in excess of 580,000 people and scores of industries. Intensive use of the aquifers, coupled with their high potential for contamination and loss of recharge, has culminated to the 1978 petition by the City of East Orange and the Passaic River Coalition to designate 80 square miles of "Buried Valley Aquifer System" as a Sole Source Aquifer in the basin (Appendix

B, Exhibit 1 of the PRC Report), to a hearing on May 23, 1979 on this petition and finally on May 8, 1980 to EPA adopted designation of the Buried Valley Aquifers, including the addition of Stream Flow Source Zone as the Sole Source Aquifer designated Area within the Passaic River Basin.

The significance of the EPA Stream Flow Source Zone added to the aquifer designation is to provide further protection for the aquifer by prohibiting pollution of groundwater or surface water in the Stream Flow Source Zone by Federal projects which might eventually pollute the aquifer.

A listing of municipalities entirely or partially within the Sole Source Aquifer Designated Areas A & B for the Buried Valley follows:

- A. The Recharge Zone is defined by the outside boundary of the following municipalities: On the south--Bernards Township and Warren Township, on the east--Berkeley Heights, New Providence, Summit, Millburn, Livingston Township, Roseland, Essex Fells, Caldwell, West Caldwell and North Caldwell, on the north--Fairfield, and Montville, on the west--Parsippany-Troy Hills, Morris Township and Harding Township. Included within these perimeter communities are also the following: Passaic Township, Chatham, Chatham Township, Madison, Florham Park, Morristown, Hanover, East Hanover and Morris Plains.
- B. The Stream Flow Source Zone of the aquifer system lies within the boundaries of the Rockaway River

Sub-basin, which, in turn, is part of the Passaic River Basin. This zone includes those portions of the sub-basin which ultimately drain to the recharge zone. The area encompasses all or part of the following municipalities: Bernardsville, Boonton Town, Boonton Township, Denville, Dover, Jefferson, Kinnelon, Lincoln Park, Mendham Borough, Mendham Township, Mine Hill, Mountain Lakes, Mount Arlington, Randolph, Rockaway Borough, Rockaway Township, Roxbury, Sparta, Victory Gardens and Wharton.

One can see from the map attached to this letter, that approximately 90 percent of Rockaway Township lies within Area "B" Stream Flow Source Zone. Needless to say, extreme caution must be used when constructing any type of development in this zone.

\* \* \* \* \*

Keenan Page 30

In some cases, it is appropriate that package sewage treatment plants be used in conjunction with housing developments.

LTPA RESPONSE

Specifically in Rockaway Township, if a package plant were constructed and permitted to operate, its use would be interim (until the Rockaway Valley Regional Sewerage Authority could accept its sewage flow) and the flow from this package plant would be directly deducted from Rockaway Township's maximum flow allocation to the Rockaway Valley Regional Sewerage Authority.

\* \* \* \* \*

**Keenan Pages 35 thru 37**

LTPA RESPONSE

Mr. Keenan's summary of Denville Township is wrong. My office has completed all the 201 Facilities Planning for Denville Township. Obviously he has not referred to these documents. Almost 100 percent of Denville Township lies in the previously discussed Buried Valley Aquifer. Denville Township also has an agreement with the Rockaway Valley Regional Sewerage Authority to treat all sewage generated in Denville Township. By this agreement Denville is barred from going into the sewage treatment business. Mr. Keenan's alternative of using package sewage plants in Denville Township is wrong.

\* \* \* \* \*

**Keenan Pages 38 thru 55**

LTPA RESPONSE

Mr. Keenan's summaries of Florham Park Borough, Hanover Township, Montville Township, Morris Township, Mt. Olive Township, Parsippany-Troy Hills Township, Randolph Township, Rockaway Township and Roxbury Township are all very simplistic and do not refer to the myriad of documents available relative to water and sewer developments in each of the above-mentioned communities.

\* \* \* \* \*

**Keenan Page 57**

LTPA RESPONSE

I can only support Mr. Keenan's summary and conclusions to a very limited extent. My office has completed or is in the process of completing 201 Facilities Plans for Denville Township, Roxbury Township, and the Musconetcong Sewerage Authority, as well as many

Mr. James P. Wyse Esq.  
Re: Rockaway Township: Fair Housing Suit  
February 10, 1984 - Page 21

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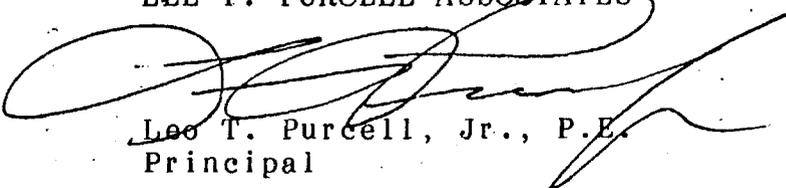
other municipalities and authorities throughout the State of New Jersey. It is my considered opinion that use of package sewage treatment plants should only be allowed on an interim basis in Rockaway Township. Once Rockaway Township's allocation of sewage flow from the Rockaway Valley Regional Sewerage Authority has been committed, all development activity in Rockaway Township must conform with NJDEP's Standards for the Construction of Individual Subsurface Sewage Disposal Systems, Effective July 1, 1978.

\* \* \* \* \*

I will be pleased to meet with you to discuss any questions you may have regarding this communication.

Respectfully submitted,

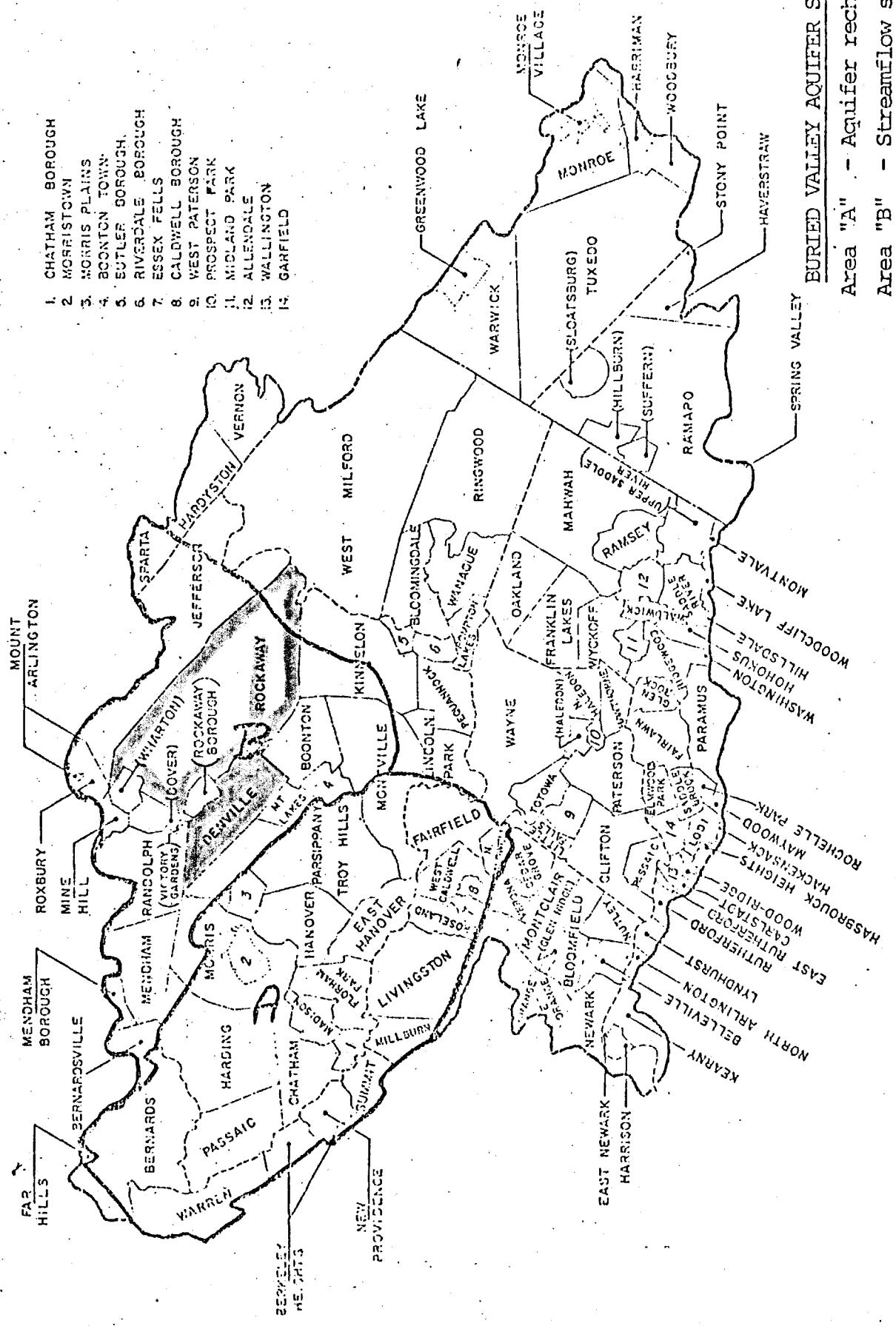
LEE T. PURCELL ASSOCIATES



Lee T. Purcell, Jr., P.E.  
Principal

LTPjr/as  
attachments

1. CHATHAM BOROUGH
2. MORRISTOWN
3. MORRIS PLAINS
4. BOONTON TOWN
5. BUTLER BOROUGH
6. RIVERDALE BOROUGH
7. ESSEX FIELDS
8. CALDWELL BOROUGH
9. WEST PATERSON
10. PROSPECT PARK
11. MIDLAND PARK
12. ALLENDALE
13. WALLINGTON
14. GARFIELD



**BURIED VALLEY AQUIFER SYSTEM**

Area "A" - Aquifer recharge zone

Area "B" - Streamflow source zone



TAB NO. 1

PRELIMINARY REPORT

ROCKAWAY TOWNSHIP

Revised: February, 1984

DRAFT

PRELIMINARY REPORT

ROCKAWAY TOWNSHIP ZONING SUIT

REVISED: FEBRUARY, 1984

The Township of Rockaway lies in part within the drainage basins of the Rockaway River and the Pequannock River. The Rockaway River and the Pequannock River are major tributaries of the Passaic River.

The rivers in the area have been classified by NJDEP as FW-2 waters (water quality limited) which are approved as sources of public water supply (after required treatment). The Pequannock River in this area is considered trout waters.

The most developed area of the Township lies within the drainage basin of the Rockaway River. The waters of the Rockaway River are impounded in the Jersey City Reservoir in Boonton which is downstream of Rockaway Township. This provides potable water for Jersey City.

The northerly portion of the Township is less densely populated; however, large land areas are held by the City of Newark in their watershed which includes their potable water supply in the Charlottesburg Reservoir and Split Rock Pond, with its drainage area serves Jersey City. The portion of the Township within the Pequannock River Drainage Basin is predominantly Newark Watershed property.

The Rockaway and Pequannock Rivers being tributaries of the Passaic River which is also used as a potable source of water by the Passaic Valley Water Commission.

The Picatinny Arsenal also occupies a large land area along the westerly boundary of the Township.

Under the present federal laws, as applied to funding of sanitary sewerage facilities by the United States Environmental Protection Agency (USEPA), 75% of eligible costs are provided by the federal government. The purpose of the federal program is to provide financial assistance to those existing communities where municipal sanitary sewage disposal is needed. To qualify for such grants, the homes had to be occupied prior to October 18, 1972 and treatment facilities of adequate capacity have to be available for the project areas. In areas where existing or planned treatment capacity is limited (this is the situation in each basin) then the number of users must be limited accordingly. At the present time Federal funds for distribution through USEPA are in short supply.

If new construction is allowed to connect to the sewerage system, it would consume treatment plant capacity. Thus, the unsewered homes that predate October 18, 1972 may be denied sewer service as a result.

It is my understanding that when municipal sewage collection systems were installed, the "assessment method" was used to distribute capital costs; consequently, there are still vacant lots that have been assessed for the sanitary sewers but are not now connected to the sewerage system. New construction could deprive these vacant lots of sanitary sewer service if the new construction required a central sanitary sewer system and was connected to the existing municipal sanitary sewer system.

As new subdivisions were constructed, septic systems were installed to provide interim service until a sanitary sewer is made available. These homes could possibly be denied service through new construction that would require a central sanitary sewer system.

Previously "approved" subdivisions may also be denied sanitary sewer service by new construction that would require a central sanitary sewer system.

If new construction is allowed to be built on the basis of an "On-Site" disposal system and the system fails, the corrective action would be the construction of a central sanitary sewer system. However, treatment plant capacity and stream assimilative capacity may not be available in which event the use of the development would have to be eliminated or significantly modified.

It should also be noted that the effluent (discharge) from "package" plants or septic systems would eventually enter the surface and/or ground waters thereby affecting the allowable flow to the regional treatment plant. This would also involve additional treatment of the potable water supplies.

In the development of Program Requirements Memorandum (PRM) 78-9, USEPA infers that if the population density is greater than 10 people per acre, central sanitary sewers are required. It further indicates that if the population density is less than 1.7 people per acre (two acre lots), there is no need for central sanitary sewer service. In areas where population density is between 1.7 and 10 people per acre, this regulation required certain analyses to be made to justify the need for central sanitary sewers. In practice, the USEPA recognizes that a single family dwelling on a half acre of land should have central sanitary sewer service and that if water is supplied by a private well on the same parcel of land that the minimum lot size should be one acre.

It should be noted that areas where septic systems are best able to function are often used for the production of potable water. Such area should be protected from any possible contamination. There are thirteen wells shown in Rockaway on the map from Special Report 25 "Availability of Groundwater in Morris County, New Jersey" as prepared by the State of New Jersey Department of Conservation and Economic Development - Division of Water Policy and Supply dated 1965.

The potable well water for the Township is taken from three different aquifers, namely:

Precambrian	-	150,000 gpd (Report 25)
Paleozoic	-	61,000 gpd (Report 25)
Quaternary	-	600,000 gpd (Report 25)

Great care should be taken in analyzing any site selected for mass housing to be certain of adequate sewage disposal.

In the year 1979, the total maximum allocation of sewage from Rockaway Township to the RVRSA was estimated at 4.4 mgd with an additional 0.5 mgd from Picatinny Arsenal for the year 2020 based on data supplied by the Township. With the recent review of the Rockaway River Basin by the United States Environmental Protection Agency, the Township's overall allocation for the year 2020 was reduced to 4.1 mgd with an additional 0.3 mgd from Picatinny Arsenal according to the municipal engineer.

The Township's Consulting Engineer has informed this office that two Senior Citizen Areas have received approval of the RVRSA for sewage treatment. The Township has not reviewed the proposed plans at this point in time (January, 1984). One of the proposed sites is located on Mount Pleasant Avenue and will provide seventy-

five (75) units with an estimated average daily sewage flow of 9,226 gallons. The other proposed site is located on Sanders Road and will provide forty (40) units with an estimated average daily sewage flow of 7,150 gallons. The total estimated average daily flow from the two senior citizen areas will be 16,376 gallons.

The RVRSA is presently under construction with an expansion program that should be operational in the year 1986. This will provide 12 MGD treatment capability. With the completion of construction, the Authority expects to see the building ban that became effective in the year 1968 eliminated.

Data and information supplied to this office by the Township's Consulting Engineer, indicates the following:

Estimated Existing Sewage Flow (1984) from 2567 connections	770,100 GPD
Three Existing Package Plants	605,000 GPD
Vacant Lots in Subdivisions and infilling of lots not yet sewered.	1,472,700 GPD
Approved-proposed Apartments (517 units) (517 units x 200 gpd/unit)	103,400 GPD
Estimated Industrial in RVRSA Service Area - 130 Acres	260,000 GPD
Senior Citizen Housing (two sites)	16,376 GPD
<hr/>	
SUMMATION	3,227,576 GPD

Based on the above data, we conclude that 3.2 MGD of the 4.1 MGD RVRSA allocation is presently committed.

It should also be noted that lot sizes in the White Meadow Lake Area, Lake Telemark Area and Green Pond Area were subdivided into small lots many with 50 to 75 foot frontage.

It must also be noted that about 90% of the area of the Township lies within the streamflow source zone of the Buried Valley Aquifer System, which is identified by USEPA as a Sole Source Aquifer.



TAB NO. 2

PRESIDENTIAL EXECUTIVE ORDER

WETLANDS

Dated May, 1977

## PROTECTION OF WETLANDS

By virtue of the authority vested in me by the Constitution and statutes of the United States of America, and as President of the United States of America, in furtherance of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.), in order to avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative, it is hereby ordered as follows:

Section 1. (a) Each agency shall provide leadership and shall take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for (1) acquiring, managing, and disposing of Federal lands and facilities; and (2) providing Federally undertaken, financed, or assisted construction and improvements; and (3) conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.

(b) This Order does not apply to the issuance by Federal agencies of permits, licenses, or allocations to private parties for activities involving wetlands on non-Federal property.

Sec. 2. (a) In furtherance of Section 101(b)(3) of the National Environmental Policy Act of 1969 (42 U.S.C. 4331(b)(3)) to improve and coordinate Federal plans,

~~function, programs and resources to~~ end that the Nation may attain the widest range of beneficial uses of the environment without degradation and risk to health or safety, each agency, to the extent permitted by law, shall avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds (1) that there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. In making this finding the head of the agency may take into account economic, environmental and other pertinent factors.

(b) Each agency shall also provide opportunity for early public review of any plans or proposals for new construction in wetlands, in accordance with Section 2(b) of Executive Order No. 11514, as amended, including the development of procedures to accomplish this objective for Federal actions whose impact is not significant enough to require the preparation of an environmental impact statement under Section 102(2)(C) of the National Environmental Policy Act of 1969, as amended.

Sec. 3. Any requests for new authorizations or appropriations transmitted to the Office of Management and Budget shall indicate, if an action to be proposed will be located in wetlands, whether the proposed action is in accord with this Order.

Sec. 4. When Federally-owned wetlands or portions of wetlands are proposed for lease, easement, right-of-way or disposal to non-Federal public or private parties, the Federal agency shall (a) reference in the conveyance those uses that are restricted under identified Federal, State or local wetlands regulations; and (b) attach

other appropriate restrictions to the uses of properties by the grantee or purchaser and any successor, except where prohibited by law; or (c) withhold such properties from disposal.

Sec. 5. In carrying out the activities described in Section 1 of this Order, each agency shall consider factors relevant to a proposal's effect on the survival and quality of the wetlands. Among these factors are:

(a) public health, safety, and welfare, including water supply, quality, recharge and discharge; pollution; flood and storm hazards; and sediment and erosion;

(b) maintenance of natural systems, including conservation and long term productivity of existing flora and fauna, species and habitat diversity and stability, hydrologic utility, fish, wildlife, timber, and food and fiber resources; and

(c) other uses of wetlands in the public interest, including recreational, scientific, and cultural uses.

Sec. 6. As allowed by law, agencies shall issue or amend their existing procedures in order to comply with this Order. To the extent possible, existing processes, such as those of the Council on Environmental Quality and the Water Resources Council, shall be utilized to fulfill the requirements of this Order.

Sec. 7. As used in this Order:

(a) The term "agency" shall have the same meaning as the term "Executive agency" in Section 105 of Title 5 of the United States Code and shall include the military departments; the directives contained in this Order, however, are meant to apply only to those agencies which perform the activities described in Section 1 which are located in or affecting wetlands.

## THE PRESIDENT

(b) The term "new construction" shall include draining, dredging, channelizing, filling, diking, impounding, and related activities and any structures or facilities begun or authorized after the effective date of this Order.

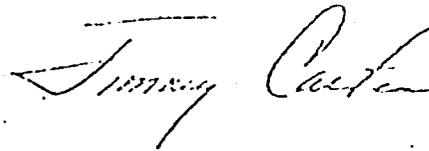
(c) The term "wetlands" means those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds.

Sec. 8. This Order does not apply to projects presently under construction, or to projects for which all of the funds have been appropriated through Fiscal Year 1977, or to projects and programs for which a draft or final environmental impact statement will be filed prior to October 1, 1977. The provisions of Section 2 of this Order shall be implemented by each agency not later than October 1, 1977.

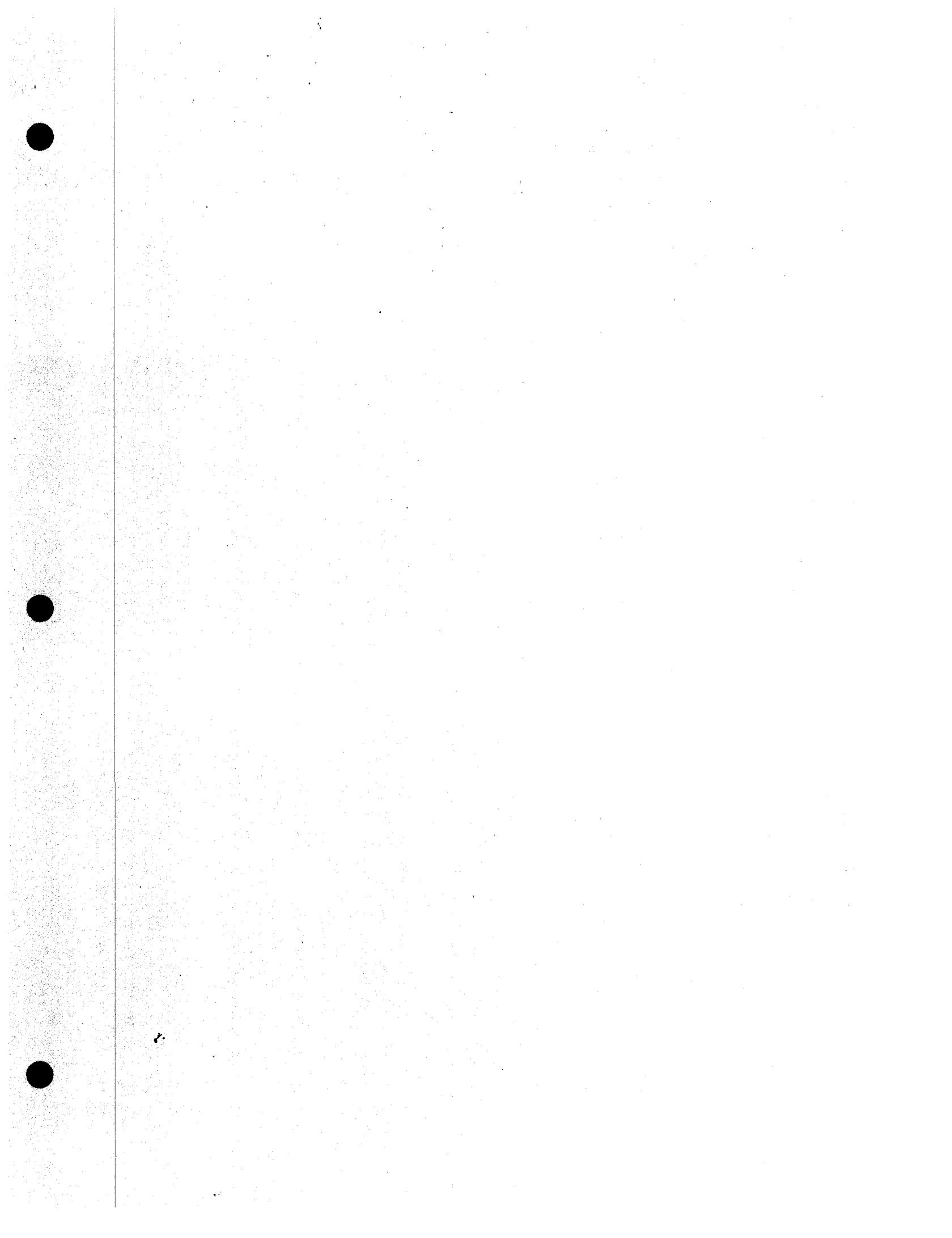
Sec. 9. Nothing in this Order shall apply to assistance provided for emergency work, essential to save lives and protect property and public health and safety, performed pursuant to Sections 305 and 306 of the Disaster Relief Act of 1974 (88 Stat. 140, 42 U.S.C. 5145 and 5146).

Sec. 10. To the extent the provisions of Sections 2 and 5 of this Order are applicable to projects covered

by Section 104(h) of the Housing and Community Development Act of 1974, as amended (88 Stat. 640, 42 U.S.C. 5304(h)), the responsibilities under those provisions may be assumed by the appropriate applicant, if the applicant has also assumed, with respect to such projects, all of the responsibilities for environmental review, decisionmaking, and action pursuant to the National Environmental Policy Act of 1969, as amended.



THE WHITE HOUSE,  
May 24, 1977



TAB NO. 3

PRESIDENTIAL EXECUTIVE ORDER

FLOODPLAIN MANAGEMENT

Dated May, 1977

THE PRESIDENT

Executive Order 11988

May 24, 1977

FLOODPLAIN MANAGEMENT

*Out  
Ken  
Bill  
Jesse-Jed*

By virtue of the authority vested in me by the Constitution and statutes of the United States of America, and as President of the United States of America, in furtherance of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.), the National Flood Insurance Act of 1968, as amended (42 U.S.C. 4001 et seq.), and the Flood Disaster Protection Act of 1973 (Public Law 93-234, 87 Stat. 975), in order to avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative, it is hereby ordered as follows:

Section 1. Each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities for (1), acquiring, managing, and disposing of Federal lands and facilities; (2) providing Federally undertaken, financed, or assisted construction and improvements; and (3) conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.

Sec. 2. In carrying out the activities described in Section 1 of this order, each agency has a responsibility to evaluate the potential effects of any actions it may take in a floodplain; to ensure that its planning programs and budget requests reflect consideration of flood hazards and

as follows:

(a) (1) Before taking an action, each agency shall determine whether the proposed action will occur in a floodplain -- for major Federal actions significantly affecting the quality of the human environment, the evaluation required below will be included in any statement prepared under Section 102(2)(C) of the National Environmental Policy Act. This determination shall be made according to a Department of Housing and Urban Development (HUD) floodplain map or a more detailed map of an area, if available. If such maps are not available, the agency shall make a determination of the location of the floodplain based on the best available information. The Water Resources Council shall issue guidance on this information not later than October 1, 1977.

(2) If an agency has determined to, or proposes to, conduct, support, or allow an action to be located in a floodplain, the agency shall consider alternatives to avoid adverse effects and incompatible development in the floodplains. If the head of the agency finds that the only practicable alternative consistent with the law and with the policy set forth in this Order requires siting in a floodplain, the agency shall, prior to taking action,

- (i) design or modify its action in order to minimize potential harm to or within the floodplain, consistent with regulations issued in accord with Section 2(d) of this Order, and
- (ii) prepare and circulate a notice containing an explanation of why the action is proposed to be located in the floodplain.

(3) For programs subject to the Office of Management and Budget Circular A-95, the agency shall send the notice, not to exceed three pages in length including a location map, to the state and area-wide A-95 clearinghouses for the geographic areas affected. The notice shall include:

(i) the reasons why the action is proposed to be located in a floodplain; (ii) a statement indicating whether the action conforms to applicable state or local floodplain protection standards and (iii) a list of the alternatives considered. Agencies shall endeavor to allow a brief comment period prior to taking any action.

(4) Each agency shall also provide opportunity for early public review of any plans or proposals for actions in floodplains, in accordance with Section 2(b) of Executive Order No. 11514, as amended, including the development of procedures to accomplish this objective for Federal actions whose impact is not significant enough to require the preparation of an environmental impact statement under Section 102(2)(C) of the National Environmental Policy Act of 1969, as amended.

(b) Any requests for new authorizations or appropriations transmitted to the Office of Management and Budget shall indicate, if an action to be proposed will be located in a floodplain, whether the proposed action is in accord with this Order.

(c) Each agency shall take floodplain management into account when formulating or evaluating any water and land use plans and shall require land and water resources use appropriate to the degree of hazard involved. Agencies shall include adequate provision for the evaluation and consideration of flood hazards in the regulations and operating procedures for the licenses, permits, loan or grants-in-aid programs that they administer. Agencies

applicants to evaluate the effects of their projects in floodplains prior to submitting applications for Federal licenses, permits, loans or grants.

(d) As allowed by law, each agency shall issue or amend existing regulations and procedures within one year to comply with this Order. These procedures shall incorporate the Unified National Program for Floodplain Management of the Water Resources Council, and shall explain the means that the agency will employ to pursue the nonhazardous use of riverine, coastal and other floodplains in connection with the activities under its authority. To the extent possible, existing processes, such as those of the Council on Environmental Quality and the Water Resources Council, shall be utilized to fulfill the requirements of this Order. Agencies shall prepare their procedures in consultation with the Water Resources Council, the Federal Insurance Administration, and the Council on Environmental Quality, and shall update such procedures as necessary.

Sec. 3. In addition to the requirements of Section 2, agencies with responsibilities for Federal real property and facilities shall take the following measures:

(a) The regulations and procedures established under Section 2(d) of this Order shall, at a minimum, require the construction of Federal structures and facilities to be in accordance with the standards and criteria and to be consistent with the intent of those promulgated under the National Flood Insurance Program. They shall deviate only to the extent that the standards of the Flood Insurance Program are demonstrably inappropriate for a given type of structure or facility.

(b) If, after compliance with the requirements of this Order, new construction of structures or

facilities are to be located in a floodplain, accepted floodproofing and other flood protection measures shall be applied to new construction or rehabilitation. To achieve flood protection, agencies shall, wherever practicable, elevate structures above the base flood level rather than filling in land.

(c) If property used by the general public has suffered flood damage or is located in an identified flood hazard area, the responsible agency shall provide on structures, and other places where appropriate, conspicuous delineation of past and probable flood height in order to enhance public awareness of and knowledge about flood hazards.

(d) When property in floodplains is proposed for lease, easement, right-of-way, or disposal to non-Federal public or private parties, the Federal agency shall (1) reference in the conveyance those uses that are restricted under identified Federal, State or local floodplain regulations; and (2) attach other appropriate restrictions to the uses of properties by the grantee or purchaser and any successors, except where prohibited by law; or (3) withhold such properties from conveyance.

Sec. 4. In addition to any responsibilities under this Order and Sections 202 and 205 of the Flood Disaster Protection Act of 1973, as amended (42 U.S.C. 4106 and 4128), agencies which guarantee, approve, regulate, or insure any financial transaction which is related to an area located in a floodplain shall, prior to completing action on such transaction, inform any private parties participating in the transaction of the hazards of locating structures in the floodplain.

Sec. 5. The head of each agency shall submit a report to the Council on Environmental Quality and to the Water Resources Council on June 30, 1978, regarding the status of their procedures and the impact of this Order on the agency's operations. Thereafter, the Water Resources Council shall periodically evaluate agency procedures and their effectiveness.

Sec. 6. As used in this Order:

(a) The term "agency" shall have the same meaning as the term "Executive agency" in Section 105 of Title 5 of the United States Code and shall include the military departments; the directives contained in this Order, however, are meant to apply only to those agencies which perform the activities described in Section 1 which are located in or affecting floodplains.

(b) The term "base flood" shall mean that flood which has a one percent or greater chance of occurrence in any given year.

(c) The term "floodplain" shall mean the lowland and relatively flat areas adjoining inland and coastal waters including floodprone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year.

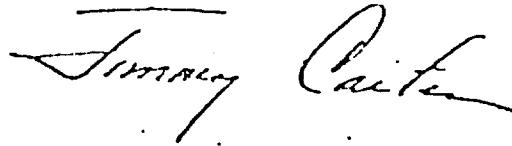
Sec. 7. Executive Order No. 11296 of August 10, 1966, is hereby revoked. All actions, procedures, and issuances taken under that Order and still in effect shall remain in effect until modified by appropriate authority under the terms of this Order.

Sec. 8. Nothing in this Order shall apply to assistance provided for emergency work essential to save lives and protect property and public health and safety, performed pursuant to Sections 305 and 306 of the Disaster Relief Act of 1974 (88 Stat. 148, 42 U.S.C. 5145 and 5146).

THE PRESIDENT

26

Sec. 9. To the extent the provisions of Section 2(a) of this Order are applicable to projects covered by Section 104(h) of the Housing and Community Development Act of 1974, as amended (88 Stat. 640, 42 U.S.C. 5304(h)), the responsibilities under those provisions may be assumed by the appropriate applicant, if the applicant has also assumed, with respect to such projects, all of the responsibilities for environmental review, decisionmaking, and action pursuant to the National Environmental Policy Act of 1969, as amended.



THE WHITE HOUSE,  
May 24, 1977



TAB NO. 4

USEPA SPECIAL GRANT CONDITION REGARDING WETLANDS  
(Part 111b, Para. 2b.), to a Municipal Grantee

*fax*  
**TOWNSHIP OF DENVILLE**

"Hub of Morris County"

*Lee Purcell*  
**RECEIVED**

JOHN C. O'KEEFE  
Mayor  
THOMAS L. GRADY  
Administrator

OCT 28 1981

**LEE T. PURCELL  
ASSOCIATES**

DONNA COSTELLO  
Municipal Clerk  
DANIEL CRANE  
Councilor  
BETTY ANN LAM  
Councilor  
JAMES C. NICHOLS  
Councilor  
JOHN E. FISHER  
Councilor  
WILLARD B. COLE  
Councilor  
SAMUEL C. PARKINS  
Councilor

August 12, 1981

Ms. Helen S. Beggan  
Chief, Grants Administration Branch  
26 Federal Plaza  
New York, New York 10278

Re: Grant Agreement EPA # C340 466-02

Dear Ms. Beggan:

I am pleased to enclose on behalf of the Township of Denville, a fully executed original and copy of the Grant Agreement.

As requested in the July 8, 1981 letter from Richard T. Dewling, Part III containing special conditions has been reviewed. It is our understanding that Special Conditions 2a and 2b would prohibit sewer hookups from only those undeveloped or subdividable properties located along the project area as defined by the approved 201 Facilities Plan and as further specifically identified on Table I attached to the June 11, 1981 letter from your agency.

It is our further understanding that if we are unsuccessful in obtaining an approved Step III construction grant we will be relieved from the Special Conditions attached to this Step II grant.

Very truly yours,

TOWNSHIP OF DENVILLE

*John C. O'Keefe*  
John C. O'Keefe, Mayor

Enclosure

cc: Dennis Ducko, Manager  
Grants Administration Unit, NJDEP

PART IIIb. - SPECIAL CONDITIONS (Cont'd)

2. Environmental Conditions

- a. The grantee has submitted to EPA and the New Jersey Department of Environmental Protection an approvable facilities plan amendment including maps that clearly delineate all specific vacant parcels of land within the facilities planning area that are partially or wholly within the 100 year floodplain as defined by the U.S. Department of Housing and Urban Development (HUD), or within wetlands as defined by the U.S. Fish and Wildlife Service. These maps have also shown which parcels had been developed prior to date of issuance of Finding of No Significant Impact/Environmental Assessment (FNSI/EA).
- b. The grantee agrees that for a period of 50 years from the date of the FNSI/EA no sewer hook-up or other connections to the sewage collection system included in the scope of this grant will be allowed or permitted so as to allow the discharge of wastewater from any building, facility or other construction on any parcel of land within any wetlands or within the 100 year floodplain, which land parcel as of the date of the FNSI/EA was undeveloped (i.e., upon which no building, facility or other construction had been erected or placed) unless approved in writing by the Regional Administrator.
- c. This condition is intended to benefit any persons or private organization or governmental entity which may have an interest in the avoidance of any future development in the designated areas. Any such beneficiary (who may otherwise have standing to seek enforcement and the right to begin such action in a court of competent jurisdiction) may seek to enforce compliance with this condition in the courts of the State of New Jersey against the grantees or any non-Federal person, organization, or entity subject to this condition if notice of intent to seek such enforcement is first given to the EPA Regional Administrator, New Jersey Department of Environmental Protection, the Grantee and affected governmental entities and if none of those so noticed initiates corrective action within ninety days of such notice.
- d. Since the facilities plan amendment noted under a. above delineates vacant parcels which will be affected by this special condition, the Grantee will conduct a public hearing within 60 days of the date of this grant. The public hearing must be preceded by a notice of 45 days, during which time the facilities plan amendment will be made available to the public. The public hearing record will remain open for 30 days after the hearing to allow for additional public input.



TAB NO. 5

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION'S  
WATER QUALITY STANDARDS

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION'S  
WATER QUALITY STANDARDS

The provisions of Section 303 of the Federal Clean Water Act, as amended, mandate that the State Water Pollution control Agency adopt, and, from time to time, review and, as appropriate, modify Surface Water Quality standards.

A. Water Quality Management Plan

Is governed by Sect. 201, 208, and 303(e) of "the Act" or Federal Water Pollution Control Act Amendments of:

1972 (P.L. 92-500);

1977 (P.L. 95-217); and

1982 (P.L. 97-117).

Sect. 201 - facilities plan covers municipal or regional sewage treatment works.

Sect. 208 - develops a comprehensive strategy for all the water quality problems of a particular geographic area. It examines all potential sources and types of water pollution, including those related to land use, rather than being limited strictly to domestic sewage in the case of 201 planning.

Sect. 303(e) - requires a basin plan, to coordinate the State's enforcement, discharge permit, and 201 construction grants programs, and incorporates aspects of 208 planning. The plans, to be developed by the State, quantify the

amount of pollutants from "point sources that can acceptably discharged to a stream consistent with maintaining water quality.

In November 1975, the United States Environmental Protection Agency, combined the provisions of Section 208 and 303(e) and labelled those combined plans "Water Quality Management (WQM) Plans." The requirements of these plans are specified in detail in federal regulations CFR Part 131.11 (a)(p).

B. The New Jersey Department of Environmental Protection's "Water Quality Standards are governed by:

- N.J.S.A 58:10A-1 et seq.  
The Water Pollution Control Act
- N.J.S.A 58:11A-1 et seq.  
The Water Quality Planning Act
- N.J.A.C. 7:9-4.1 et seq.  
Surface Water Quality Standards
- N.J.A.C. 7:9-5.1 et seq.  
Treatment of Wastewaters Discharged into Surface Waters of the State; and
- N.J.A.C. &9-6.1 et seq.  
Groundwater Quality Standards



STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
JERRY FITZGERALD ENGLISH, COMMISSIONER

P. O. BOX 1390  
TRENTON, N.J. 08625  
603 292-2885

ENVIRONMENTAL PROTECTION  
THE COMMISSIONER  
DEP Docket No. 010-80-02

New, Revised, and Amended Rules Concerning Water Quality Standards

I, Jerry Fitzgerald English, Commissioner of Environmental Protection, pursuant to the authority of N.J.S.A. 13:1D-1 et seq., the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq. and the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq. and in accordance with the applicable provisions of the Administrative Procedure Act, hereby adopt new, revised, and amended rules to be cited as N.J.A.C. 7:9-4.1 et seq., 7:9-5.1 et seq., and 7:9-6.1 et seq. concerning Surface Water Quality Standards, Treatment of Wastewaters Discharged Into Surface Waters of the State and Ground-Water Quality Standards. Pursuant to the same authority, I hereby repeal the existing subchapters 4, 8, 11 and 14 of chapter 9 of Title 7 of the New Jersey Administrative Code. The rules are substantially as proposed in the Notice published March 6, 1980 at 12 N.J.R. 108(c), but with subsequent, substantive changes not detrimental to the public in the opinion of the Department.

The provisions of Section 303 of the Federal Clean Water Act, as amended, 33 U.S.C. 1251 et seq. mandate that the State water pollution control agency adopt and, from time to time, review and, as appropriate, modify Surface Water Quality Standards. The Surface Water Quality Standards being adopted at this time contain a number of modifications to those standards adopted on November 18, 1974. In the opinion of the Department, the rules are consistent with the purpose and intent of the New Jersey Water Pollution Control Act, the Water Quality Planning Act, the Federal Clean Water Act, and the Federal Regulations governing water quality standards (40 CFR 35.1550). Upon adoption, the rules concerning Surface Water Quality Standards will be submitted to the Administrator of the United States Environmental Protection Agency for his determination that such standards meet the requirements of the Clean Water Act.

As part of the State's Continuing Planning Process required by Section 303 of the Clean Water Act and the Water Quality Planning Act, the new, revised and amended Water Quality Standards also become a portion of the (208) Areawide Water Quality Management Plans and supersede any classifications or provisions in those plans which are inconsistent with these rules.

The rules concerning Surface Water Quality Standards contain sections regarding definitions, policy statements, designated uses and water quality criteria, and surface water classifications. The major revisions and additions to the standards consist of technical revisions to various classifications, standards for certain toxic substances, heat dissipation areas, and clarification of the State's Antidegradation Policy.

The rules concerning Treatment of Wastewaters Discharged Into Surface Waters of the State contain sections regarding definitions, policy statements, wasteload allocation objectives and procedures, minimum treatment requirements, procedures for modifying water quality based effluent limitations, and procedures for reclassifying specific segments for less restrictive uses. The major revisions and additions to the treatment requirements consist of a seasonal disinfection policy and designation of areas eligible for seasonal disinfection, procedures for establishing water quality based effluent limitations for individual dischargers, minimum treatment requirements for toxics, procedures for modifying water quality based effluent limitations, and procedures for reclassifying specific segments for less restrictive uses.

The rules concerning Ground-Water Quality Standards contain sections regarding definitions, statements of policy, ground water designated uses and quality criteria, ground water designated areas, effluent standards and discharger requirements, and procedures for modifying ground-water quality based effluent limitations. The sections of the rules which apply Statewide are new. Only minor and, in the opinion of the Department of Environmental Protection, inconsequential revisions have been made to the Ground-Water Quality Standards for the Central Pine Barrens adopted on January 23, 1978. The Central Pine Barrens Standards have been included in the Ground-Water Quality rules, N.J.A.C. 7:9-6.1 et seq., for the purpose of continuity and clarity.

Public hearings concerning the rules were held on May 12, 1980 in the Archives Exhibit Room, New Jersey State Library, Trenton; on May 13, 1980 at the Environmental Education Center, Basking Ridge; and on May 14, 1980 at Stockton State College, Pomona. Comments were accepted on the proposed rules until July 1, 1980. The Record of Proceedings for these rules will be maintained in the Enforcement and Regulatory Services Element, Division of Water Resources, 1474 Prospect Street, Trenton, New Jersey.

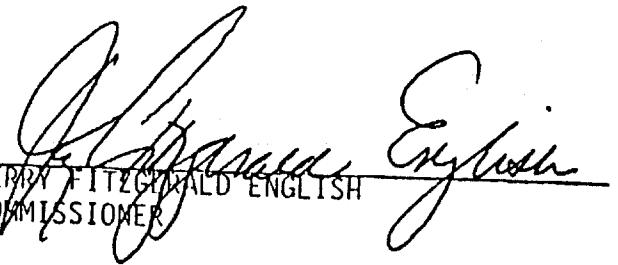
A Summary of Comments and Responses and a Table showing disposition of subject matter of sections repealed by DEP Docket Number 010-80-02 in provisions of Chapter 9 of Title 7 of the New Jersey Administrative Code are attached hereto for filing with the Office of Administrative Law, Division of Administrative Procedure.

Copies of the final rules and the Summary of Comments and Responses may be obtained from:

Assistant Director  
Monitoring and Planning Element  
Division of Water Resources  
P.O. Box CN-029  
Trenton, New Jersey 08625

In accordance with the provisions of the Administrative Procedure Act, the aforementioned rules are hereby adopted substantially as proposed to become effective immediately.

DATE: March 3, 1981

  
JERRY FITZGERALD ENGLISH  
COMMISSIONER

TABLE

Showing disposition of subject matter of sections repealed or reconstituted by DEP Docket Number 010-80-02 in provisions of Chapter 9 of Title 7 of the New Jersey Administrative Code.

<u>Former Section</u>	<u>New Section</u>
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7:9-4.5 Definitions	7:9-4.4 Definitions, and 7:9-5.3 Definitions
7:9-4.6 Surface Water class definitions and quality criteria	7:9-4.6 Fresh surface water designated uses and quality criteria
"	7:9-4.7 Tidal surface water designated uses and quality criteria
"	7:9-4.8 Coastal surface water designated uses and quality criteria
"	7:9-4.9 Designated uses and quality criteria Mainstem Delaware River and Delaware Bay
7:9-4.8 Surface water classifications	7:9-4.10 Surface water classi- fications
7:9-4.9 Designated use and quality criteria; Moses Creek	-----
Subchapter 8 Treatment of Wastewaters Discharged Into Waters of the State	
7:9-8.1 Scope	7:9-5.1 Scope of Rules
7:9-8.2 Construction	7:9-5.2 Construction
7:9-8.3 Practice where rules do not govern	-----
7:9-8.4 Domestic wastes, FW-2, FW-3, TW-1 discharged into waters of Atlantic Coastal Plain	7:9-5.11 Minimum Treatment Requirements

7:9-8.5 Industrial wastes, FW-2, FW-3, TW-1	7:9-5.11 Minimum Treatment Requirements
7:9-8.6 Domestic wastes, CW-1, CW-2	"
7:9-8.7 Industrial wastes, CW-1, CW-2	"
7:9-8.8 Individual treatment	"
7:9-8.9 Treatment standards	"
7:9-8.10 Domestic wastes, FW-2, FW-3, TW-1, TW-2 discharged into Delaware River Basin	"
7:9-8.11 Industrial wastes, FW-2, FW-3, TW-1, TW-2	"
7:9-8.12 Domestic wastes; main stem	"
7:9-8.13 Industrial wastes; main stem	"
7:9-8.14 Individual treatment	"
7:9-8.15 Treatment standards	"
7:9-8.16 Domestic waste, FW-2, FW-3, TW-1 discharged in Hackensack River Basin	"
7:9-8.17 Industrial waste, FW-2, FW-3, TW-1	"
7:9-8.18 Domestic wastes, TW-2, TW-3	"
7:9-8.19 Industrial wastes, TW-2, TW-3	"
7:9-8.20 Individual treatment	"
7:9-8.21 Treatment standards	"
7:9-8.22 Domestic wastes, FW-2, FW-3 discharged into Passaic River Basin, including Newark Bay	"
7:9-8.23 Industrial wastes, FW-2, FW-3	"
7:9-8.24 Domestic wastes, TW-2, TW-3	"
7:9-8.25 Industrial waste, TW-2, TW-3	"

7:9-8.26 Individual treatment	7:9-5.11 Minimum Treatment Requirements
7:9-8.27 Treatment standards	"
7:9-8.28 Domestic wastes, FW-2, FW-3, discharged into Raritan River Basin, including Raritan Bay	"
7:9-8.29 Industrial wastes, FW-2, FW-3	"
7:9-8.30 Domestic wastes, TW-1	"
7:9-8.31 Industrial waste, TW-1	"
7:9-8.32 Individual treatment	"
7:9-8.33 Treatment standards	"
7:9-8.34 Domestic wastes, FW-2, FW-3 discharged into Walkkill River Basin	"
7:9-8.35 Industrial waste; FW-2, FW-3	"
7:9-8.36 Individual treatment	"
7:9-8.37 Treatment standards	"
7:9-8.38 Treatment of domestic wastes; FW-2 and FW-3 waters in Raritan River Basin, including Raritan Bay	"
7:9-8.39 Treatment of industrial wastes; FW-2 and FW-3 waters	"
7:9-8.40 Treatment of domestic wastes; TW-1 waters	"
7:9-8.41 Treatment of industrial wastes; TW-1 waters	"
7:9-8.42 Individual treatment	"
7:9-8.43 Treatment standards	"
Subchapter 11 Allocation of Waste Loads to Point Source Discharges	
7:9-11.1 Definitions	7:9-5.3 Definitions
7:9-11.2 Objective	7:9-5.5 Objective of Wasteload Allocation

7:9-11.3 Policy	7:9-5.4 Statements of Policy
7:9-11.4 Waste load Allocation procedure	7:9-5.6 Wasteload Allocation Procedure
7:9-11.5 Variations in discharge loadings	-----

Subchapter 14 Ground Water Quality Standards

7:9-14.1 Scope of rules	7:9-6.1 Scope of Rules
7:9-14.2 Construction	7:9-6.2 Construction
7:9-14.3 Practice where rules do not govern	-----
7:9-14.4 Statement of policy	7:9-6.4 Statements of Policy, and 7:9-4.5 Statements of Policy
7:9-14.5 Definitions	7:9-6.3 Definitions
7:9-14.6 Ground water designated uses and quality criteria; GW-Central Pine Barrens	7:9-6.5 Ground Water Designated Uses and Quality Criteria, and 7:9-6.6 Ground-Water Quality Criteria
7:9-14.7 Ground water designated area	7:9-6.7 Ground Water Designated Areas
7:9-14.8 Surface water classifications	7:9-4.10 Surface Water Classifications

SUBCHAPTER 4  
SURFACE WATER QUALITY STANDARDS

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## SUBCHAPTER 4 SURFACE WATER QUALITY STANDARDS

### 7:9-4.1 Scope of Rules

Unless otherwise provided by rule or statute, the following shall constitute the rules of the Department of Environmental Protection governing matters of policy with respect to the protection and enhancement of surface water resources, class definitions and quality criteria, use designation and quality criteria for the main stem of the Delaware River including the Delaware Bay, and the classification of surface waters of the State, pursuant to N.J.S.A. 13:1D-1 et. seq., the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et. seq. and the Water Quality Planning Act, N.J.S.A. 58:11A-1 et. seq.

### 7:9-4.2 Construction

These rules shall be liberally construed to permit the department and its various divisions to discharge its statutory functions.

### 7:9-4.3 (Reserved)

### 7:9-4.4 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

"Acute Toxicity" means causing death or severe damage to an organism by poisoning during a brief exposure period, normally 96 hours or less.

"Agricultural Water Supply" means water used for livestock, horticulture, and silviculture.

"Ambient Temperature" means the temperature of a water body beyond the portion of that water body which is affected by the localized heated waste discharge or discharge complex; or the temperature of a water body that would exist without the addition of heat of artificial origin.

"Anadromous Fish" means fish that spend a part of their lives in the sea or lakes, but ascend rivers to spawn.

"Appropriate Sanitary Survey" means a survey that will be designed by the department on a case-by-case basis to accurately identify bacterial sources of contamination in a cost efficient, timely manner.

"Aquatic Substrata" means soil material and attached biota underlying the water.

"Bioaccumulation" means uptake and retention of environmental substances by an organism from its environment, as opposed to uptake from its food.

"Bioassay" means a determination of the concentration or dose of a given material necessary to affect a test organism under stated conditions.

"Biota" means the animal and plant life of the region; flora and fauna collectively.

"Calculable Changes" means changes to representative (as may be determined by the department) water quality data which may be demonstrated by any acceptable mathematical predictive tool.

"Chronic Toxicity" means causing death or damage to an organism by poisoning during prolonged exposure, which depending on the organism tested and the test conditions, may range from more than 96 hours to weeks, months, or years.

"Conservative Substance" means a substance that is relatively resistant to degradation.

"Cumulative Substance" means a substance that has the potential to be extracted from the water by an organism and increases in concentration within an organism until it exerts a toxic effect on that organism.

"Department" means New Jersey Department of Environmental Protection.

"Designated Area" means the geographic extent of waters where designated use and criteria described herein are to be protected or met.

"Designated Use" means present or potential uses of surface waters.

"Disinfection" means the removal, destruction or inactivation of pathogenic and indicator organisms in wastewaters.

"Epilimnion" means the upper region of a thermally stratified body of water which is freely circulating and extends from the surface to the thermocline; the epilimnion does not have a permanent temperature stratification.

"Flow-Through Bioassay" means a bioassay test technique which permits test solutions to flow into and out of the test chambers on a once through basis for the duration of the test.

"Fresh Tidal Waters" means waters affected by tidal action, the salinity concentration will generally be less than or equal to 3.5 parts per thousand at mean high tide.

"Head of Tide" means the extent of tidal waters the salinity concentration of which will generally be greater than 3.5 parts per thousand.

"Heat Dissipation Area" means a localized area of surface water, as may be designated by the department, into which thermal effluents may be discharged for the purpose of mixing, dispersing or dissipating such effluents without creating nuisances or hazardous conditions in compliance with this subchapter.

"High Quality Waters" means those surface waters having biological, chemical or physical characteristics which are better than water quality standards and the aquatic biological community or other uses are sensitive to changes in water quality.

"Hypolimnion" means the lower region of a stratified body of water that extends from the thermocline to the bottom of the lake and is cut off from circulation with the upper waters, thereby receiving no oxygen from the atmosphere while stratified.

"Important Species" means species which are commercially or recreationally valuable (e.g., within the top ten species landed--by dollar value); threatened or endangered; critical to the organization and maintenance of the ecological system; or necessary in the food web for the well-being of species identified in this definition.

"Industrial Water Supply" means water used for processing or cooling.

"Intermittent Stream" means a stream with less than one-tenth (0.1) cubic feet per second minimum consecutive 7 day flow with a 10 year recurrence interval, or a drainage area of less than one square mile.

"Lake, Pond or Reservoir" means any impoundment, whether naturally created or created in whole or in part by the building of structures for the retention of surface water.

"LC50" means the concentration of a toxicant which is lethal to fifty per cent of the organisms of a particular species under a given set of conditions in a specified length of time (i.e., 24, 48, 96 hours).

"Life-Cycle Toxicity Test" means a test that consists of exposing several groups of individuals of one species to different concentrations of a toxic agent throughout a life cycle in order to study the effect of the toxic agent on the survival, growth, and reproduction of the species. To ensure that all life stages and life processes are exposed, the test begins with embryos or nearly hatched larvae less than forty-eight hours old, continues throughout maturation and reproduction, and with fish, ends not less than thirty days (ninety days for salmonids) after the hatching of the next generation.

"Limiting Factor" means a factor whose absence, or excessive concentration, exerts some restraining influence upon a population through incompatibility with species requirements or tolerance.

"Maximum Acceptable Toxicant Concentration (MATC)" means the highest concentration of a toxicant that has no adverse effect on survival, growth, or reproduction of a species based on the results of a life-cycle or partial life-cycle test. A life-cycle or partial life-cycle test cannot produce a value for the MATC; a test can only produce limits within which the MATC must fall.

"Measurable Changes" means changes determined by any biological, chemical, or physical analytical method conducted in accordance with USEPA approved methods as identified in 40 C.F.R. 136 or other analytical methods (e.g., ecological indices) approved by the department.

"Mixing Zones" means localized areas of surface waters, as may be designated by the department, into which non-thermal wastewater effluents may be discharged for the purpose of mixing, dispersing or dissipating such effluents without creating nuisances or hazardous conditions in compliance with this subchapter.

"Natural Flow" means water flow that would exist in a waterway without the addition of flow of artificial origin.

"Natural Water Quality" means water quality that would exist in a waterway without the addition of water or water borne substances from artificial origin.

"NJDEP" means New Jersey Department of Environmental Protection.

"Nonconservative Substance" means a substance that degrades relatively quickly.

"Noncumulative Substance" means a substance that either does not have the potential to be extracted from the water by an organism, or does not increase in concentration within an organism to the point that it exerts a toxic effect on that organism.

"Nondegradation Waters" means those surface waters of the State whose water quality and water uses shall be preserved because of their outstanding resource value. This definition shall not apply to those surface waters that have special water quality standards, (e.g., FW-Central Pine Barrens and FW-Lower Mullica and Wading Rivers-Central Pine Barrens).

"Nonpersistent Substance" means a substance that degrades relatively quickly, having a one-half-life of less than 96 hours.

"Nontrout Waters" means waters that, because of their physical or chemical or biotic characteristics, are not suitable for trout but which, in general, are suitable for a wide variety of other fish species.

"NPDES" means National Pollutant Discharge Elimination System.

"Partial Life-Cycle Toxicity Test" means a test that consists of exposing several groups of individuals of one species to different concentrations of a toxic agent through part of a life-cycle in order to study the effect of the toxic agent on survival, growth, and reproduction. Partial life-cycle tests are conducted with fish species that require more than a year to reach sexual maturity so that the test can be completed in less than 15 months, but still expose all major life stages to the toxicant. With fish, exposure to the toxic agent begins with immature juveniles at least two months prior to active gonad development, continues through maturation and reproduction, and ends not less than 30 days (90 days for salmonids) after the hatching of the next generation.

"Persistent Substance" means a substance that is relatively resistant to degradation, having a one-half-life of 96-hours or more.

"Primary Contact Recreation" means recreational activities that involve significant ingestion risks and includes but is not limited to wading, swimming, diving, surfing, water skiing and other full-body contact activities.

"Public Hearing" is a legislative type hearing before a representative or representatives of the department providing the opportunity for public comment, but which does not include cross-examination.

"Secondary Contact Recreation" means recreational activities where the probability of significant contact or water ingestion is minimal and includes but is not limited to boating, fishing, and those other activities involving limited contact with surface waters incident to shoreline recreation.

"Stream Temperature" means temperature of a stream outside of the designated heat dissipation area.

"Surface Water Classifications" means surface waters of this State identified as Fresh (FW), Tidal (TW) and Coastal (CW). This includes both interstate and intrastate waters.

"Thermal Alterations" means the increase or decrease in temperature of surface waters, above or below the natural, that may be caused by the activities of man.

"Tidal Waters" means waters affected by tidal action, the salinity concentration of which will generally be greater than 3.5 parts per thousand at mean high tide.

"Total Residual Chlorine (TRC)" means all chemical species of dissolved gaseous chlorine and its oxidation products which can be detected by United States Environmental Protection Agency approved methods for the analysis of chlorine waters and waste-waters.

"Toxic Substances" means those substances, or combination of substances, which upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly through food chains, will, on the basis of information available to the department, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformation, in such organisms or their offspring.

"Trout Maintenance Waters" means waters that support trout throughout the year or which have high potential for such use pending the correction of short term environmental alterations. Waters in which the biotic community is manipulated for the purpose of trout maintenance and which are otherwise not naturally suited for such purposes are not included.

"Trout Production Waters" means waters that are used by trout for spawning or nursery purposes during their first summer or which are considered to have high potential for such use pending the correction of short term environmental alterations.

"USEPA" means United States Environmental Protection Agency.

"Wildlife" means all undomesticated animals.

7:9-4.5 Statements of Policy

(a) The following are statements of general policy:

1. Water is vital to life and comprises an invaluable natural resource which is not to be abused by any segment of the State's population or its economy. It is the policy of this State to restore, enhance and maintain the chemical, physical and biological integrity of its waters, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial and other uses of water.

2. It is the policy of the department not to permit the introduction of substances into the waters of the State in concentrations which are known to be carcinogenic, mutagenic, or teratogenic. The department, to the maximum extent possible, will direct its control efforts to require the removal of such substances from wastewater discharges where such discharges are shown to already occur in the waters of the State.

3. It is the policy of the department that any other toxic substances in waters of the State shall not be at levels which are toxic to humans or to aquatic life or which bioaccumulate in aquatic organisms so as to render them unfit for human consumption.

4. Existing and intended uses of surface waters shall be maintained and protected. Where existing criteria are inadequate to support existing uses, such criteria shall be upgraded.

5. The department shall define the designated uses which are to be protected and maintained, identify those waters to which each designated use applies, and establish numerical or descriptive criteria for water quality substances in a manner that is consistent with the designated uses and policies described herein.

6. It is the objective of the department to restore tidal waters which are now at levels of quality below acceptable limits of quality for unrestricted shellfish harvesting to levels which permit such use.

(b) The following are statements of policy concerning interstate waters:

1. The designated uses and water quality criteria for the fresh and saline tidal tributaries (to head of tide) to the Delaware River, including the Delaware Bay, shall be as established at sections six and seven of this subchapter, or in accordance with the prevailing "Basin Regulations - Water Quality" adopted by the Delaware River Basin Commission as part of its Comprehensive Plan, whichever are more stringent.

2. The designated uses and water quality criteria for waters of the Interstate Sanitation District under the jurisdiction of the Interstate Sanitation Commission in the New Jersey-New York metropolitan area, shall be as established at section seven of this subchapter, or in accordance with the prevailing Interstate Sanitation Commission's Water Quality Regulations, whichever are more stringent.

(c) The following are statements of technical policy:

1. When existing water quality does not conform with the established minimum criteria solely as a result of natural causes, natural water quality characteristics shall prevail.

2. Except for intermittent streams, water quality criteria are expected to be maintained during periods when stream flows are at or greater than the minimum consecutive 7 day flow with a 10 year recurrence interval period.

3. Water quality criteria are expected to be maintained in intermittent streams during all natural flow conditions. When the intermittent stream does not contain natural flow of sufficient magnitude to determine water quality, the criteria to be maintained will be those pertaining to the measurable natural flow immediately downstream of the intermittent stream.

4. The following are statements of policy concerning non-thermal mixing zones:

i. In a non-thermal mixing zone, an area contiguous to discharge, receiving water quality may be allowed to fall below applicable water quality standards.

ii. If, in the judgment of the department, a mixing zone is appropriate, the department will determine the requirements for a non-thermal mixing zone on a case-by-case basis.

iii. The total area and volume of a body of water assigned to non-thermal mixing zones shall be limited to that which will not interfere with biological communities or populations of important species to a degree which is damaging to the ecosystem or which diminishes other beneficial uses disproportionately. Furthermore, significant mortality of aquatic life shall not occur within the non-thermal mixing zone.

iv. In streams, reservoirs, lakes, estuaries, and coastal waters, zones of passage are considered to be continuous water routes of the volume, area and quality necessary to allow passage of free-swimming and drifting organisms with no significant effects produced on their populations. These zones of passage must be provided wherever non-thermal mixing zones are allowed.

5. All laboratories whose analytical data are to be incorporated by the department in its water quality monitoring or other activities shall be approved or certified by the department in accordance with Chapter 18 of this title.

6. As a guideline the substances listed below should not exceed the specified limits for the protection of potable water supplies:

	<u>mg/l</u>
i. Arsenic	0.05
ii. Barium	1.0
iii. Cadmium	0.01
iv. Chromium (Hexavalent)	0.05
v. Lead	0.05
vi. Mercury	0.002
vii. Selenium	0.01
viii. Silver	0.05

(d) The following are statements of policy concerning antidegradation:

1. Existing instream water uses shall be maintained and protected. No further water quality degradation which would interfere with or become injurious to existing water uses is allowable. Existing high quality waters which are better than those levels necessary to support propagation of fish, shellfish and wildlife and recreation in and on the water shall be maintained and protected unless the State chooses, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, to allow lower water quality as a result of necessary and justifiable economic or social development. In no event, however, may degradation of water quality interfere with or become injurious to existing instream water uses. Additionally, no degradation shall be allowed in high quality waters which constitute an outstanding National or State resource. This antidegradation policy shall be applied as follows:

i. Nondegradation Waters are those waters currently classified as FW-1 in section 10 of this subchapter and whose uses and quality criteria are described at section 6 of this subchapter.

ii. High Quality Waters-Category One are waters having biological, chemical, or physical characteristics which are better than quality standards. The uses of these high quality waters are so sensitive to any change in chemical or physical characteristics that it is presumed that any measurable or calculable degradation of the instream characteristics will lead to eventual change or harm to the uses in these

surface waters. The existing biological, chemical, or physical characteristics of High Quality Waters-Category One which are critical to the maintenance of existing instream uses will be protected from any measurable or calculable changes. Surface waters identified as High Quality Waters-Category One are:

- (1) FW-2 Trout Production waters and their tributaries;
- (2) Surface waters classified as FW-2 Trout Maintenance or FW-2 Nontrout which are upstream of surface waters classified as FW-2 Trout Production;
- (3) Shellfish waters classified as approved in chapter 12 of this title; or
- (4) Other high quality surface waters and their tributaries which flow through, or border, State and National Parks, Forests, and Fish and Wildlife lands.

iii. High Quality Waters-Category Two are waters having biological, chemical or physical characteristics which are better than water quality standards. The uses of these high quality waters are sensitive to changes in chemical or physical characteristics. However, these uses may be capable of being maintained within some range of change to the instream chemical or physical characteristics as may be determined by studies relating biological and other use characteristics to chemical and physical characteristics of aquatic ecosystems. The High Quality Waters-Category Two are those waters having biological, chemical, or physical characteristics better than water quality standards and not identified as Nondegradation Waters or High Quality Waters-Category One.

iv. Category Three waters are those waters in which ambient water quality is consistently worse than or equal to applicable water quality standards. Existing and intended uses of these waters shall be attained or maintained.

2. In all situations where a lower classification of water may impinge upon a higher classification of water, the department, in implementing these standards, shall ensure the quality and uses of the higher classification are protected.

3. The following are statements of policy concerning nondegradation of Central Pine Barrens water quality:<sup>1</sup>

<sup>1</sup>The designated uses and special water quality criteria for the Central Pine Barrens may be found at subsections 6(b), 6(c), and 6(e).

i. The department shall not, in the performance of its statutory duties, approve any activity which alone or in combination with other activities, will cause degradation in the existing surface water quality characteristics of the Central Pine Barrens. The State encourages rational and ecologically sound agricultural practices and other appropriate uses.

ii. The department's Central Pine Barrens water quality policy is not intended to interfere with water control in the operation of cranberry bogs or blueberry production.

7:9-4.6 Fresh surface water designated uses and quality criteria

(a) Designated uses and quality criteria for FW-1 waters

1. Designated uses: Fresh waters, including rivers, streams, lakes or other bodies of water which, because of their clarity, color, scenic setting, or other characteristic of aesthetic value or unique special interest, have been designated by authorized State agencies in conformance with laws pertaining to the use of private lands, to be set aside for posterity to represent the natural aquatic environment and its associated biota.

2. FW-1 quality criteria:

i. These waters, which are identified in section 10 of this subchapter shall be maintained as to quality in their natural state (set aside for posterity) and shall not be subject to any man-made wastewater discharges.

ii. Waters which originate wholly within State parks, forests and fish and wildlife lands, but not identified in section 10 of this subchapter shall not be subject to any new man-made wastewater discharges.

(b) Designated uses and quality criteria for FW-Lower Mullica and Wading Rivers - Central Pine Barrens

1. Designated uses: These waters shall be suitable for cranberry bog water supply and other agricultural uses; the maintenance, migration and propagation of the natural and established biota indigenous to this unique ecological system; public potable water supply after such treatment as shall be required by law or regulation; swimming; and other reasonable uses.

2. Class FW-Lower Mullica and Wading Rivers-Central Pine Barrens Quality Criteria:

i. Quality criteria for FW-Lower Mullica and Wading Rivers-Central Pine Barrens may be found in subsection (e) of this section and shall not apply to:

(1) Discharges which emanate from individual on-site sewage disposal systems which systems were in existence or for which a building permit had been issued prior to January 23, 1978, provided that such existing systems were installed and are operating in conformance with N.J.S.A. 58:11-23 et seq. and all regulations adopted thereunder; and all other appropriate Federal, State and local laws. Furthermore, any water quality standards in existence prior to January 23, 1978, shall remain in effect for previously existing individual on-site sewage disposal systems.

(2) Discharges from agricultural operations that were in existence prior to January 23, 1978, provided that such discharges are in compliance with existing best management practices, or other existing Federal, State, or local laws. Nothing in this subsection shall be construed to limit the ability of the US EPA or the NJ DEP to require additional control measures in conformance with future regulations regarding soil conservation, pesticides, best management practices, or other future Federal, State, or local laws. Furthermore, any water quality standards in existence prior to January 23, 1978, shall remain in effect for previously existing agricultural discharges.

(3) All point source discharges permitted prior to January 23, 1978, by the US EPA through the issuance of a NPDES permit, or by the NJ DEP through the issuance of State water pollution control permits, provided that such discharges are in compliance with all terms and conditions of the appropriate permit. Nothing in this subsection shall be construed to limit the ability of the US EPA or the NJ DEP to require:

(i) Technology based effluent control measures for classes of point sources, other than publicly owned treatment works, as may be required by Federal or State law;

(ii) Alternative effluent control strategies for publicly owned treatment works and other classes of point sources.

Furthermore, water quality standards in existence prior to January 23, 1978, shall remain in effect for these existing point source discharges.

ii. Seasonal or other natural conditions may cause a deviation in the water quality criteria. These deviations must be considered, after consulting with the department, in the design of any water resources project.

(c) Designated uses and quality criteria for FW-Central Pine Barrens

1. Designated uses: These waters shall be suitable for cranberry bog water supply and other agricultural uses; the maintenance, migration and propagation of the natural and established biota indigenous to this unique ecological system; public potable water supply after such treatment as shall be required by law or regulation; swimming; and other reasonable uses.

2. FW-Central Pine Barrens quality criteria:

i. Quality criteria for FW-Central Pine Barrens may be found in subsection (e) of this section and shall not apply to:

(1) Discharges which emanate from individual on-site sewage disposal systems which systems were in existence or for which a building permit had been issued prior to January 23, 1978, provided that such existing systems were installed and are operating in conformance with N.J.S.A. 58:11-23 et seq., and all regulations adopted thereunder; and all other appropriate Federal, State and local laws. Furthermore, any water quality standards in existence prior to January 23, 1978, shall remain in effect for previously existing individual on-site disposal systems.

(2) Discharges from agricultural operations that were in existence prior to January 23, 1978, provided that such discharges are in compliance with existing best management practices or other existing Federal, State, or local laws. Nothing in this subsection shall be construed to limit the ability of the US EPA or the NJ DEP to require additional control measures in conformance with future regulations regarding soil conservation, pesticides, best management practices, or other future Federal, State, or local laws. Furthermore, any water quality standards in existence prior to January 23, 1978, shall remain in effect for previously existing agricultural discharges.

(3) All point source discharges permitted prior to January 23, 1978, by the USEPA through the issuance of a NPDES permit or by the NJ DEP through the issuance of State water pollution control permits, provided that such discharges are in compliance with all terms and conditions of the appropriate permit. Nothing in this subsection shall be construed to limit the ability of the US EPA or the NJ DEP to require:

(i) Technology based effluent control measures for classes of point sources, other than publicly owned treatment works, as may be required by Federal or State law;

(ii) Alternative effluent control strategies for publicly owned treatment works and other classes of point sources.

Furthermore, any water quality standards in existence prior to January 23, 1978, shall remain in effect for these existing point source discharges.

ii. Seasonal or other natural conditions may cause a deviation in the water quality criteria. These deviations must be considered, after consulting with the Department, in the design of any water resources project.

(d) Designated uses and quality criteria for FW-2 waters

1. Designated uses:

i. Fresh surface waters, including fresh tidal waters which shall be suitable for public potable water supply after such treatment as shall be required by law or regulation.

ii. These waters shall also be suitable for the maintenance, migration and propagation of the natural and established biota; primary contact recreation; industrial and agricultural water supply and any other reasonable uses.

iii. The FW-2 classification is subdivided into three categories as follows:

- (1) FW-2 Trout Production
- (2) FW-2 Trout Maintenance
- (3) FW-2 Nontrout

2. FW-2 quality criteria: Quality criteria for FW-2 Trout Production, FW-2 Trout Maintenance, and FW-2 Nontrout are found in subsection (e) of this section.

(e) Surface Water Quality Criteria for Freshwater

(Concentrations are in micrograms per liter unless otherwise noted)

Substance	FW-Lower Mullica and Wading Rivers				
	Central Pine Barrens	FW- Central Pine Barrens	FW-2-Trout Production	FW-2-Trout Maintenance	FW-2-Nontrout
Antidegradation policy	Except for FW-Lower Mullica and Wading Rivers - Central Pine Barrens and FW-Central Pine Barrens, the antidegradation policy may supersede the water quality criteria found in this section (7:9-4.6(e)).				
Floating, colloidal, color and settleable solids; petroleum hydrocarbons and other oils and grease	1. None noticeable in the water or deposited along the shore or on the aquatic substrata in quantities detrimental to the natural biota. None which render the waters unsuitable for the designated uses.  2. For "Petroleum Hydrocarbons" the goal is none detectable utilizing the federal EPA-Environmental Monitoring and Support Laboratory Method (Freon Extractable-Silica Gel Absorption-Infrared Measurement); the present criteria, however, are those of paragraph 1. above.				
Turbidity (Nephelometric Turbidity Unit-NTU)	Maximum of 20.0 NTU at any time.	Maximum of 20.0 NTU at any time.	Maximum 30-day average of 15 NTU, a maximum of 50 NTU at any time.		
Suspended solids-non-filterable residue (mg/l)	Maximum of 40.0 at any time.	Maximum of 40.0 at any time.	Maximum of 25.0 at any time.		Maximum of 40.0 at any time.
Taste and odor producing substances	None offensive to humans or which would produce offensive taste or odors in water supplies and biota used for human consumption. None which would render the waters unsuitable for the designated uses.				
pH (Standard Units)	4.5-6.0	3.5-5.5	6.5-8.5	6.5-8.5	6.5-8.5

(e) Surface Water Quality Criteria for Freshwater

(Concentrations are in micrograms per liter unless otherwise noted)

Substance	FW-Lower Mullica and Wading Rivers Central Pine Barrens	FW- Central Pine Barrens	FW-2-Trout Production	FW-2-Trout Maintenance	FW-2-Nontrout
5 day Bio-chemical oxygen demand (mg/l)	Maximum of 5.0 at any time.	Maximum of 5.0 at any time.	None which would render the waters unsuitable for the designated uses.		
Dissolved oxygen	Not less than 85% saturation at any time.	Not less than 85% saturation at any time.	Not less than 7.0 mg/l at any time.	24 hour average not less than 6.0 mg/l.  Not less than 5.0 mg/l at any time.	i. 24 hour average not less than 5.0 mg/l, but not less than 4.0 mg/l at anytime, except as noted in paragraph ii. below.  ii. Not less than 4.0 mg/l at any time in the freshwater tidal portions of tributaries to the Delaware River, between Rancocas Creek and Big Timber Creek inclusive.

(e) Surface Water Quality Criteria for Freshwater

(Concentrations are in micrograms per liter unless otherwise noted)

Substance	FW-Lower Mullica and Wading Rivers Central Pine Barrens	FW- Central Pine Barrens	FW-2-Trout Production	FW-2-Trout Maintenance	FW-2-Nontrout
Temperature and heat dissipation areas.	Not to deviate more than 2.8°C (5.0°F) from ambient stream temperature.	Not to deviate more than 2.8°C (5.0°F) from ambient stream temperature.	Ambient temperatures shall prevail except where properly treated wastewater effluents may be discharged. Where such discharges occur, stream temperatures shall not deviate more than 0.6°C (1.0°F) from ambient stream temperature.	1. Streams: i. No heat may be added which would cause temperatures to exceed 1.1°C (2°F) over ambient at any time or which would cause temperatures in excess of 20°C (68°F). Temperatures shall be measured outside of heat dissipation areas.	1. Streams: i. No thermal alterations which would cause temperatures to deviate more than 2.8°C (5.0°F) at any time from ambient temperatures. No heat may be added which would cause temperatures to exceed 27.8°C (82°F) for small mouth bass or yellow perch waters or 30°C (86°F) for other nontrout waters. Temperatures shall be measured outside of heat dissipation areas.  2. Lakes: i. No thermal alterations of more than 1.7°C (3°F) in the epilimnion of lakes and other standing waters. Temperatures shall be measured outside of heat dissipation areas.

(e) Surface Water Quality Criteria for Freshwater

(Concentrations are in micrograms per liter unless otherwise noted)

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Substance	FW-Lower Mullica and Wading Rivers Central Pine Barrens	FW- Central Pine Barrens	FW-2-Trout Production	FW-2-Trout Maintenance	FW-2-Nontrout
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ii. Unless a special study shows that a discharge of a heated effluent into the hypolimnion or pumping water from the hypolimnion (for discharging back into the same water body) will be desirable with respect to designated water uses, such practices shall not be permitted.

Temperature  
and heat dis-  
sipation areas

3. Heat dissipation determinations: i. The determination of heat dissipation areas shall take into special consideration the extent and nature of the receiving waters so as to meet the intent and purpose of the criteria and standards including provision for the passage of free-swimming and drifting organisms so that negligible or no effects are produced on their populations.

ii. Streams: Heat dissipation areas shall be limited to no more than one-quarter (1/4) of the cross section and/or volume of flow of the body of water, leaving at least three-quarters (3/4) free as a zone of passage including a minimum of one-third(1/3) surface measured from shore to shore at any flow. These limitations may be exceeded by special permission, on a case-by-case basis, when the applicant can demonstrate that a

(e) Surface Water Quality Criteria for Freshwater

(Concentrations are in micrograms per liter unless otherwise noted)

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Substance	FW-Lower Mullica and Wading Rivers Central Pine Barrens	FW- Central Pine Barrens	FW-2-Trout Production	FW-2-Trout Maintenance	FW-2-Nontrout
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larger heat dissipation area will provide for passage of free-swimming and drifting organisms and not become injurious to or impair designated uses.

iii. Lakes, ponds, or reservoirs: Heat dissipation areas will be developed on a case-by-case basis and will provide for passage of free-swimming and drifting organisms and not become injurious to or impair designated uses.

4. Adjacent heat dissipation areas: Where waste discharges would result in heat dissipation areas in such close proximity to each other as to impair protected uses, additional limitations may be prescribed to avoid such impairment.

5. Temperature changes in designated heat dissipation areas shall not cause mortality of the aquatic life nor create conditions which allow the introduction or maintenance of populations of undesirable organisms.

(e) Surface Water Quality for Freshwater

(Concentrations are in micrograms per liter unless otherwise noted)

Substance	FW-Lower Mullica and Wading Rivers Central Pine Barrens	FW- Central Pine Barrens	FW-2-Trout Production	FW-2-Trout Maintenance	FW-2-Nontrout
Bacterial quality (MPN/100 ml)	<p>1. Except as noted in paragraph two below, fecal coliform levels shall not exceed a geometric average of 200/100 ml., nor should more than 10 per cent of the total samples taken during any 30-day period exceed 400/100 ml.</p> <p>2. Fecal coliform levels shall not exceed a geometric average of 770/100 ml. in the freshwater tidal portion of tributaries to the Delaware River, between Rancoas Creek and Big Timber Creek inclusive.</p> <p>3. Samples shall be obtained at sufficient frequencies and at locations and during periods which will permit valid interpretation of laboratory analyses. Appropriate sanitary surveys shall be carried out as a supplement to such sampling and laboratory analyses. As a guideline and for the purpose of these regulations, a minimum of five samples taken over a 30-day period should be collected, however, the number of samples, frequencies and locations will be determined by the department in any particular case.</p>				
Radioactivity	Prevailing regulations adopted by the U.S. Environmental Protection Agency pursuant to Sections 1412, 1445, and 1450 of the Public Health Services Act, as amended by the Safe Drinking Water Act (PL 93-523).				
Total dissolved solids - filterable residue (mg/l)	Maximum of 100 at anytime	Maximum of 100 at anytime	<p>1. Not to exceed 500 mg/l or 133 per cent of background whichever is less. Notwithstanding this criterion, the department, after notice and opportunity for hearing, may authorize increases exceeding these limits provided the discharger responsible for such increases can demonstrate to the satisfaction of the department that such increases will not significantly affect the growth and propagation of indigenous aquatic biota or other designated uses, including public water supplies.</p> <p>2. Any authorization by the department of such increases shall be conditioned upon utilization of the maximum practicable control technology.</p>		

(e) Surface Water Quality Criteria for Freshwater

(Concentrations are in micrograms per liter unless otherwise noted)

Substance	FW-Lower Mullica and Wading Rivers Central Pine Barrens	FW-Central Pine Barrens	FW-2-Trout Production	FW-2-Trout Maintenance	FW-2-Nontrout
Chloride (mg/l)			Maximum of 250.0 at anytime.	Maximum of 250.0 at anytime.	Maximum of 250.0 at anytime.
Sulfate (mg/l)			Maximum of 250.0 at anytime.	Maximum of 250.0 at anytime.	Maximum of 250.0 at anytime.
Nitrate nitrogen (mg/l)	Maximum of 3.0 at anytime.	Maximum of 2.0 at anytime.	None which would render the waters unsuitable for the designated uses.		
Phosphorus (mg/l)	Maximum of 0.7 at anytime - phosphorus as phosphate.		1. Lakes: Phosphorus as total P shall not exceed 0.05 in any reservoir, lake, pond, or in a tributary at the point where it enters such bodies of water, unless it can be demonstrated that total P is not a limiting factor considering the morphological, physical, chemical, and other characteristics of the water body.  2. Streams: Phosphorus as total P shall not exceed 0.1 in any stream, except at those locations in paragraph one above, where total P is determined to have a detrimental effect on stream use or to be the limiting factor considering the morphological, physical, chemical, and other characteristics of the water body.		

(e) Surface Water Quality Criteria for Freshwater

(Concentrations are in micrograms per liter unless otherwise noted)

Substance	FW-Lower Mullica and Wading Rivers Central Pine Barrens	FW-Central Pine Barrens	FW-2-Trout Production	FW-2-Trout Maintenance	FW-2-Nontrout
Toxic or hazardous substances	1. Allowing for natural conditions, none, either alone or in combination with other substances, in such concentrations as to affect humans or be detrimental to the natural aquatic biota, produce undesirable aquatic life, or which would render the waters unsuitable for the designated uses. None which would cause standards for drinking water to be exceeded after appropriate treatment.				
	2. The concentration of a nonpersistent or noncumulative toxic or hazardous substance in the State's waters shall not exceed one-twentieth (0.05) of the 96 hour LC50 value, as determined by appropriate bioassays.				
	3. The concentration of a persistent or cumulative toxic or hazardous substance in the State's waters shall not exceed one one-hundredth (0.01) of the 96 hour LC50 value, as determined by appropriate bioassays.				
	4. QUALITY CRITERIA FOR WATER (United States Environmental Protection Agency, 1976) WATER QUALITY CRITERIA 1972 (National Academy of Sciences, National Academy of Engineering, March 1973, EPA-R 3-73-033), other water quality criteria information published pursuant to Section 304(a) of the Clean Water Act of 1977, or other scientific information shall be used for recommending toxicity levels of pollutants which may affect designated uses.				
Ammonia (un-ionized; Maximum con- centrations)	50.0	50.0	20.0	20.0	50.0

(e) Surface Water Quality Criteria for Freshwater

(Concentrations are in micrograms per liter unless otherwise noted)

Substance	FW-Lower Mullica and Wading Rivers Central Pine Barrens	FW-Central Pine Barrens	FW-2-Trout Production	FW-2-Trout Maintenance	FW-2-Nontrout
Aldrin/dieldrin (Maximum concentrations)	0.003	0.003	0.003	0.003	0.003
Benzidine (Maximum concentrations)	0.1	0.1	0.1	0.1	0.1
DDT and metabolites (Maximum concentrations)	0.001	0.001	0.001	0.001	0.001
Endrin (Maximum concentrations)	0.004	0.004	0.004	0.004	0.004
Polychlorinated biphenyls (PCB) (Maximum concentrations)	0.001	0.001	0.001	0.001	0.001
Total residual chlorine (TRC) (Maximum concentra- tions)	3.0	3.0	3.0	3.0	3.0
Toxaphene (Maximum concentrations)	0.005	0.005	0.005	0.005	0.005

7:9-4.7 Tidal surface water designated uses and quality criteria

(a) Designated uses and quality criteria for TW-1 waters

1. Designated uses:
  - i. These waters shall be suitable for shellfish harvesting where permitted.
  - ii. These waters shall also be suitable for the maintenance, migration and propagation of the natural and established biota; and for primary contact recreation; industrial and agricultural water supply and any other reasonable uses.
2. Quality criteria: Quality criteria for TW-1 waters are found in subsection (d) of this section. Where trout are considered to be an important species in waters classified as TW-1, the quality criteria for FW-2 Trout Maintenance which are found in subsection (e) of section six of this subchapter shall apply.

(b) Designated use and quality criteria for TW-2 waters

1. Designated uses: These waters shall be suitable for secondary contact recreation; the propagation and maintenance of fish populations; the migration of anadromous fish; the maintenance of wildlife and other reasonable uses.
2. Quality criteria: Quality criteria for TW-2 waters are found in subsection (d) of this section.

(c) Designated uses and quality criteria for TW-3 waters

1. Designated uses: These waters shall be suitable for secondary contact recreation; the maintenance of fish populations; the migration of anadromous fish; the maintenance of wildlife and other reasonable uses.
2. Quality criteria: Quality criteria for TW-3 waters are found in subsection (d) of this section.

(d) Surface water quality criteria for tidal waters  
 (Concentrations are in micrograms per liter unless otherwise noted)

Substance	TW-1	TW-2	TW-3
Antidegradation policy	The antidegradation policy may supersede water quality criteria found in this section (7:9-4.7(d)).		
Floating, colloidal, color, settleable, and suspended solids (non-filterable residue); petroleum hydrocarbons and other oils and greases	<p>1. None noticeable in the water or deposited along the shore, or on the aquatic substrata in quantities detrimental to the natural biota. None which would render the water unsuitable for the designated uses.</p> <p>2. For "Petroleum Hydrocarbons" the goal is none detectable utilizing the Federal-Environmental Monitoring and Support Laboratory Method (Freon Extractable-Silica Gel Adsorption-Infrared Measurement); the present criteria, however, are those of paragraph 1 above.</p>		
Turbidity (NTU)	Maximum 30-day average of 10 NTU, a maximum of 30 NTU at any time.		Maximum 30-day average of 15 NTU, a maximum of 50 NTU at any time.
Taste and odor producing substances	None offensive to humans or which would produce offensive taste or odors in biota used for human consumption. None which would render the waters unsuitable for the designated uses.		
pH (Standard Units)	6.5-8.5	6.5-8.5	6.5-8.5
Dissolved oxygen (mg/l)	24 hour average not less than 5.0. Not less than 4.0 at any time.	Not less than 4.0 at any time.	Not less than 3.0 at any time.

(d) Surface water quality criteria for tidal waters  
(Concentrations are in micrograms per liter unless otherwise noted)

Substance	TW-1	TW-2	TW-3
Temperature and heat dissipation areas	<p>1. No heat shall be added which would cause temperatures to deviate from ambient stream temperatures by more than 2.2°C (4°F) during September through May, nor more than 0.8°C (1.5°F) during June through August, nor shall temperatures exceed 29.4°C (85°F).</p> <p>2. Temperatures shall be measured outside of designated heat dissipation areas.</p> <p>3. Heat dissipation area determinations: The determination of designated heat dissipation areas in tidal rivers, creeks, streams, and bay waters, shall take into consideration the extent and nature of such waters so as to meet the intent and purpose of the criteria and standards including provision for the passage of free-swimming and drifting organisms so that negligible or no effects are produced on their populations:</p> <p>i. Tidal rivers, creeks, and streams - Heat dissipation areas shall be limited to no more than one-quarter (1/4) of the cross-sectional area and/or volume of flow of the body of water, leaving at least three-quarters (3/4) free as a zone of passage including a minimum of one-third (1/3) the surface measured from shore to shore at any stage of tide. These limitations may be exceeded by special permission, on a case-by-case basis, when the applicant can demonstrate that a larger heat dissipation area will provide for passage of free-swimming and drifting organisms and not become injurious to or impair designated uses.</p> <p>ii. Bay waters - Heat dissipation areas will be developed on a case-by-case basis and will provide for passage of free-swimming and drifting organisms and not become injurious to or impair designated uses.</p>		

(d) Surface water quality criteria for tidal waters  
 (Concentrations are in micrograms per liter unless otherwise noted)

Substance	TW-1	TW-2	TW-3
	<p>4. Adjacent heat dissipation areas: Where waste discharges would result in heat dissipation areas in such close proximity to each other as to impair protected uses, additional limitations may be prescribed to avoid such impairment.</p> <p>5. Temperature changes in designated heat dissipation areas shall not cause mortality of the aquatic biota nor create conditions which allow the introduction or maintenance of populations of undesirable organisms.</p>		
Radioactivity	<p>Prevailing regulations adopted by the U.S. Environmental Protection Agency pursuant to sections 1412, 1445, and 1450 of the Public Health Services Act, as amended by the Safe Drinking Water Act (PL 93-523).</p>		
Bacterial quality (MPN/100 ml)	<p>1. Approved shellfish harvesting waters: where shellfish harvesting is permitted, requirements established by the National Shellfish Sanitation Program as set forth in its current manual of operation shall apply.</p>	<p>Fecal coliform levels shall not exceed a geometric average of 770/100 ml.</p>	<p>Fecal coliform levels shall not exceed a geometric average of 1500/100 ml.</p>
	<p>2. All other waters: Fecal coliform levels shall not exceed a geometric average of 200/100 ml, nor should more than 10 per cent of the total samples taken during any 30-day period exceed 400/100 ml.</p>		

(d) Surface water quality criteria for tidal waters  
(Concentrations are in micrograms per liter unless otherwise noted)

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Substance

TW-1

TW-2

TW-3

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3. Samples shall be obtained at sufficient frequencies and at locations and during periods which will permit valid interpretation of laboratory analyses. Appropriate sanitary surveys shall also be carried out as a supplement to such sampling and laboratory analyses. As a guideline and for the purpose of these regulations, a minimum of five samples taken over a 30-day period should be collected, however, the number of samples, frequencies, and locations will be determined by the department in any particular case.

Total dissolved  
solids - Filterable  
residue (mg/l)

None which would render the water unsuitable for the designated uses.

Toxic or hazardous  
substances

1. None, either alone or in combination with other substances, in such concentrations as to affect humans or be detrimental to the natural aquatic biota, produce undesirable aquatic life, or which would render the waters unsuitable for the designated uses.

2. The concentration of a nonpersistent or noncumulative toxic or hazardous substance in the State's waters shall not exceed one-twentieth (0.05) of the 96 hour LC50 value, as determined by appropriate bioassays.

3. The concentration of a persistent or cumulative toxic or hazardous substance in the State's waters shall not exceed one one-hundredth (0.01) of the 96 hour LC50 value, as determined by appropriate bioassays.

(d) Surface water quality criteria for tidal waters  
 (Concentrations are in micrograms per liter unless otherwise noted)

Substance	TW-1	TW-2	TW-3
	4. QUALITY CRITERIA FOR WATER (United States Environmental Protection Agency, 1976), WATER QUALITY CRITERIA 1972 (National Academy of Sciences, National Academy of Engineering, March 1973, EPA-R3-73-033), other water quality criteria information published pursuant to Section 304(a) of the Clean Water Act of 1977, or other scientific information, shall be used for recommending toxicity levels of pollutants which may affect designated uses.		
Aldrin/dieldrin (Maximum concentration)	0.003	0.003	0.003
Benzidine (Maximum concentration)	0.1	0.1	0.1
DDT and metabolites (Maximum concentration)	0.001	0.001	0.001
Endrin (Maximum concentration)	0.004	0.004	0.004
Polychlorinated biphenyls (PCB) (Maximum concentration)	0.001	0.001	0.001
Total residual chlorine (TRC) (Maximum concentration)	10.0	10.0	10.0
Toxaphene (Maximum concentration)	0.005	0.005	0.005
Ammonia (Total as N) (Maximum concentration)	0.1 of 96 hr LC50	0.1 of 96 hr LC50	0.1 of 96 hr LC50

7:9-4.8 Coastal surface water designated uses and quality criteria

(a) Designated uses and quality criteria for CW-1 waters are:

1. Designated uses: The waters of the Atlantic Ocean within 1500 feet from mean low tide shoreline or to a bottom depth of 15 feet below the mean low tide elevation, whichever is more distant from the mean low tide shoreline shall be suitable for shellfish harvesting where permitted, for primary contact recreation; the maintenance, migration and propagation of the natural and established biota; and any other reasonable uses.

2. Quality criteria: Quality criteria for CW-1 waters are found in subsection (c) of this section.

(b) Designated uses and quality criteria for CW-2 waters are:

1. Designated uses: Atlantic Ocean waters beyond those established under CW-1 to the three mile limit shall be suitable for shellfish harvesting where permitted; for secondary contact recreation; the maintenance, migration and propagation of the natural and established biota and any other reasonable uses.

2. Quality criteria: Quality criteria for CW-2 waters for found in subsection (c) of this section.

(c) Surface water quality criteria for coastal waters  
(Concentrations are in micrograms per liter unless otherwise noted)

Substance	CW-1	CW-2
Antidegradation policy	The antidegradation policy may supersede the water quality criteria found in this section (7:9-4.8(c))	
Floating, colloidal, color, suspended (filterable residue) and settleable solids petroleum hydrocarbons and other oils and greases	<p>1. None noticeable in the water or deposited along the shore or on the aquatic substrata in quantities detrimental to the natural biota None which would render the waters unsuitable for the designated uses.</p> <p>2. For "Petroleum Hydrocarbons" the goal is none detectable utilizing the Federal EPA Environmental Monitoring and Support Laboratory Method (Freon Extractable - Silica Gel Adsorption - Infrared Measurement); the present criteria, however, are those of paragraph 1. above.</p>	
Turbidity (NTU)	Levels shall not exceed 10.0 NTU.	Levels shall not exceed 10.0 NTU.
Taste and odor producing substances	None offensive to humans or which would produce offensive taste or odors in biota used for human consumption. None which would render the waters unsuitable for human consumption.	
pH(Standard Units)	Natural pH conditions shall prevail.	Natural pH conditions shall prevail.
Dissolved oxygen(mg/l)	Not less than 5.0 at any time	Not less than 5.0 at any time.
Temperature and heat dissipation areas	<p>No heat may be added directly to these waters. As a result of any heat which may be added elsewhere, the temperature shall not deviate from ambient temperatures by more than 2.2°C (4°F) during September through May, nor more than 0.8°C (1.5°F) during June through August, nor shall temperatures exceed 26.7°C (80°F).</p> <p>1. No heat may be added which would cause temperatures to deviate from ambient temperatures by more than 2.2°C (4°F) during September through May, nor more than 0.8°C (1.5°F) during June through August, nor shall temperatures exceed 26.7°C (80°F).</p> <p>2. Temperatures shall be measured outside of designated heat dissipation areas.</p>	

(c) Surface water quality criteria for coastal waters  
(Concentrations are in micrograms per liter unless otherwise noted)

Substance	CW-1	CW-2
		<p>3. Heat dissipation area determinations: The determination of designated heat dissipation areas shall take into special consideration the extent and nature of such waters so as to meet the intent and purpose of the criteria and standards including provision for the passage of free-swimming and drifting organisms so that negligible or no effects are produced on their populations.</p> <p>4. Adjacent heat dissipation areas: Where waste discharges would result in heat dissipation areas in such close proximity to each other as to impair protected uses, additional limitations may be described to avoid such impairment.</p> <p>5. Temperature changes in designated heat dissipation areas shall not cause mortality of the aquatic biota nor create conditions which allow the introduction or maintenance of populations of undesirable organisms.</p>
Radioactivity	Prevailing regulations adopted by the U.S. Environmental Protection Agency pursuant to Sections 1412, 1445, and 1450 of the Public Health Services Act, as amended by the Safe Drinking Water Act (PL 93-523).	
Bacterial quality (MPN/100 ml)	<p>1. Approved shellfish harvesting waters: Where harvesting of shellfish is permitted, requirements established by the National Shellfish Sanitation Program as set forth in its current manual of operations shall apply.</p> <p>2. All other waters: Fecal coliform levels shall not exceed a geometric average of 50/100 ml.</p>	<p>2. All other waters: Fecal coliform levels shall not exceed a geometric average of 200/100 ml nor should more than 10 per cent of the total samples taken during any 30-day period exceed 400/100 ml.</p>

(c) Surface water quality criteria for coastal waters  
(Concentrations are in micrograms per liter unless otherwise noted)

Substance	CW-1	CW-2
Endrin (Maximum concentration)	0.004	0.004
Polychlorinated biphenyls (PCB) (Maximum concentration)	0.001	0.001
Total residual chlorine (TRC) (Maximum concentration)	10.0	10.0
Toxaphene (Maximum concentration)	0.005	0.005
Ammonia (Total as N) (Maximum concentration)	0.1of 96 hr LC50	0.1of 96 hr LC50

7:9-4.9 Designated Uses And Quality Criteria Mainstem Delaware River And Delaware Bay

(a) Designated uses and quality criteria for Zone 1

1. Zone 1 designated uses:

For the non-tidal (fresh water) portion of the River down to the head of tide at Trenton (River Mile 133.4): Agricultural, industrial and public water supplies after reasonable treatment; wildlife, maintenance and propagation of resident gamefish and other aquatic life; spawning and nursery habitat for anadromous fish; passage of anadromous fish and primary contact recreation.

2. Zone 1 quality criteria:

i. Floating, suspended, colloidal and settleable solids; oil, grease, color and turbidity:

(1) None noticeable in the water or deposited along the shore or on the aquatic substrata in quantities detrimental to the natural biota. None which would render the waters unsuitable for the designated uses.

(2) Maximum 30-day average of 20 Nephelometric Turbidity Units (NTU) a maximum of 150 NTU at any time upstream from R.M. 183.66 (Phillipsburg, New Jersey).

(3) Maximum 30-day average of 30 NTU, a maximum of 150 NTU at any time from R.M. 183.66 to R.M. 133.4 (head of tide at Trenton).

ii. Toxic or deleterious substances, including but not limited to mineral acids, caustic alkali, cyanides, heavy metals, carbon dioxide, ammonia or ammonium compounds, chlorine, phenols, pesticides:

None, either alone or in combination with other substances, in such concentrations as to affect humans or be detrimental to the natural aquatic biota, produce undesirable aquatic life, or which would render the water unsuitable for the designated uses. None which would cause standards for drinking water to be exceeded after appropriate treatment.

iii. Taste and odor producing substances:

None offensive to humans or which would produce offensive tastes and/or odors in water supplies and biota used for human consumption. None which would render the waters unsuitable for the designated uses.

iv. pH:

Between 6.0 and 8.5.

v. Dissolved oxygen:

24 hour average shall not be less than 5.0 mg/l. Not less than 4.0 mg/l at any time.

vi. Temperature:

(1) General: Shall not exceed 5° F (2.8° C) rise above ambient temperature until stream temperature reaches 87° F (30.6° C) except in designated heat dissipation areas.

(2) Heat dissipation areas: The limitations specified above may be exceeded in designated heat dissipation areas by special permission on a case-by-case basis, subject to the following conditions:

(i) Maximum length: As a guideline, heat dissipation areas from R.M. 217.0 (Tocks Island) to R.M. 133.4 (Trenton) shall not be longer than 3,500 feet, or 20 times the average width of the stream, whichever is less, measured from the point where the waste discharge enters the stream.

As a guideline, heat dissipation areas upstream from R.M. 217.0 shall not be longer than 1,000 feet, or 20 times the average width of the stream, whichever is less, measured from the point where the waste discharge enters the stream.

(ii) Maximum width: Heat dissipation areas shall not exceed a maximum width of one-half the surface width of the stream or the width encompassing one-half of the entire cross-sectional area of the stream, whichever is less. Within any one heat dissipation area, only one shore shall be used in determining the limits of the area.

(iii) Adjacent heat dissipation areas: Where waste discharges would result in heat dissipation areas in such close proximity to each other as to impair protected uses, additional limitations may be prescribed to avoid such impairment.

(iv) Rate of temperature change: The rate of temperature change in designated heat dissipation areas shall not cause mortality of fish.

vii. Radioactivity:

Current U.S. Public Health Service Drinking Water Standards shall apply.

viii. Bacterial quality:

Fecal coliform not to exceed 200/100 ml as a geometric average. Samples shall be taken at such frequency and location as to permit valid interpretation. Appropriate sanitary surveys shall be carried out as a supplement to such sampling and laboratory analyses.

ix. Total dissolved solids:

Not to exceed 133 per cent of background as of October 1, 1972 or 500 mg/l, whichever is less.

x. Total alkalinity:

Not less than 20 mg/l below R.M. 183.66.

xi. Phenols:

Not to exceed 0.005 mg/l.

xii. Synthetic detergents: (M.B.A.S.)

Not to exceed 0.5 mg/l.

(b) Designated uses and quality criteria for Zone 2

1. Zone 2 designated uses:

For that portion of the Delaware River from head of tidewater at Trenton R.M. 133.4 (Trenton-Morrisville Toll Bridge) to R.M. 108.4 below the mouth of Pennypack Creek (Pennsylvania): Agricultural, industrial and public water supplies after reasonable treatment, wildlife, maintenance and propagation of resident fish and other aquatic life, passage of anadromous fish; recreation (primary contact recreation from R.M. 133.4 to R.M. 117.81 (Bristol-Burlington Bridge); secondary contact recreation below R.M. 117.81 to R.M. 108.4) and navigation.

2. Zone 2 quality criteria:

i. Floating, suspended, colloidal and settleable solids; oil, grease, color and turbidity:

(1) None noticeable in the water or deposited along the shore or on the aquatic substrata in quantities detrimental to the natural biota. None which would render the waters unsuitable for the designated uses.

(2) Maximum 30-day average of 40 Nephelometric Turbidity Units (NTU) a maximum of 150 NTU at any time, except above R.M. 117.81 during the period May 30 to September 15 when the turbidity shall not exceed 30 NTU at any time.

ii. Toxic or deleterious substances, including but not limited to mineral acids, caustic alkali, cyanides, heavy metals, carbon dioxide, ammonia or ammonium compounds, chlorine, phenols, pesticides:

None, either alone or in combination with other substances, in such concentrations as to affect humans or be detrimental to the natural aquatic biota, produce undesirable aquatic life, or which would render the water unsuitable for the designated uses. None which would cause standards for drinking water to be exceeded after appropriate treatment.

iii. Taste and odor producing substances:

None offensive to humans or which would produce offensive tastes and/or odors in water supplies and biota used for human consumption. None which would render the waters unsuitable for the designated uses.

iv. pH:

Between 6.5 and 8.5.

v. Dissolved oxygen:

24 hour average concentration shall not be less than 5.0 mg/l. During the periods from April 1 to June 15 and September 16 to December 31 the seasonal average shall not be less than 6.5 mg/l.

vi. Temperature:

(1) General: Shall not exceed 5° F (2.8° C) above the average 24 hour temperature gradient displayed during the 1961-1966 period, or a maximum of 86° F (30.0° C) whichever is less. Temperatures shall be measured outside of designated heat dissipation areas.

(2) Heat dissipation areas: The limitations specified above may be exceeded in designated heat dissipation areas by special permission on a case-by-case basis, subject to the following conditions:

(i) Maximum length: As a guideline, heat dissipation areas shall not be longer than 3,500 feet, measured from the point where the waste discharge enters the stream.

- (ii) Maximum width: Heat dissipation areas shall not exceed a maximum width of two-thirds the surface width measured from shore to shore at any stage of tide. Within any one heat dissipation area only one shore shall be used in determining the limits of the area.
- (iii) Maximum cross section: Heat dissipation areas shall not exceed a maximum of one-fourth of the cross sectional area of the stream.
- (iv) Adjacent heat dissipation areas: Where waste discharges would result in heat dissipation areas in such close proximity to each other as to impair protected uses, additional limitations may be prescribed to avoid such impairment.
- (v) Rate of temperature change: The rate of temperature change in designated heat dissipation areas shall not cause mortality of fish or shellfish.
- (vi) Heat dissipation area determinations: The determination of heat dissipation areas shall take into special consideration the extent and nature of the receiving waters so as to meet the extent and purpose of the criteria and standards including provision for the passage of free-swimming and drifting organisms so that negligible or no effects are produced on their populations.

vii. Radioactivity:

Current U.S. Public Health Service Drinking Water Standards shall apply.

viii. Bacterial quality:

Fecal coliform not to exceed 200/100 ml as a geometric average above R.M. 117.81 and 770/100 ml below R.M. 117.81. Samples shall be taken at such frequency and location as to permit valid interpretation. Appropriate sanitary surveys shall be carried out as a supplement to such sampling and laboratory analyses.

ix. Total dissolved solids:

Not to exceed 133 percent of background as of October 1, 1972 or 500 mg/l, whichever is less.

x. Total alkalinity:

Between 20 and 100 mg/l.

xi. Phenols:

Not to exceed 0.005 mg/l.

xii. Synthetic detergents: (M.B.A.S.)

Maximum 30-day average 0.5 mg/l.

xiii. Chlorides:

Maximum 15-day average 50 mg/l.

xiv. Hardness:

Maximum 30-day average 95 mg/l.

(c) Designated uses and quality criteria for Zone 3

1. Zone 3 designated uses:

For that portion of the Delaware River from R.M. 108.4 below mouth of Pennypack Creek (Pennsylvania) to R.M. 95.0 below the mouth of Big Timber Creek (New Jersey): Agricultural, industrial and public water supplies after reasonable treatment; wildlife, maintenance of resident fish and other aquatic life, passage of anadromous fish; secondary contact recreation; and navigation.

2. Zone 3 quality criteria:

i. Floating, suspended, colloidal and settleable solids; oil, grease, color and turbidity:

(1) None noticeable in the water or deposited along the shore or on the aquatic substrata in quantities detrimental to the natural biota. None which would render the waters unsuitable for the designated uses.

(2) Maximum 30-day average of 40 Nephelometric Turbidity Units (NTU) a maximum of 150 NTU at any time.

ii. Toxic or deleterious substances, including but not limited to mineral acids, caustic alkali, cyanides, heavy metals, carbon dioxide, ammonia or ammonium compounds, chlorine, phenols, pesticides:

None, either alone or in combination with other substances, in such concentrations as to affect humans or be detrimental to the natural aquatic biota, produce undesirable aquatic life, or which would render the water unsuitable for the designated uses. None which would cause standards for drinking water to be exceeded after appropriate treatment.

iii. Taste and odor producing substances:

None offensive to humans or which would produce offensive tastes and/or odors in water supplies and biota used for human consumption. None which would render the waters unsuitable for the designated uses.

iv. pH:

Between 6.5 and 8.5.

v. Dissolved oxygen:

24 hour average concentration shall not be less than 3.5 mg/l. During the periods from April 1 to June 15 and September 16 to December 31 the seasonal average shall not be less than 6.5 mg/l.

vi. Temperature:

- (1) General: Shall not exceed 5° F (2.8° C) above the average 24 hour temperature gradient displayed during the 1961-1966 period, or a maximum of 86° F (30.0° C) whichever is less. Temperatures shall be measured outside of designated heat dissipation areas.
- (2) Heat dissipation areas: The limitations specified above may be exceeded in designated heat dissipation areas by special permission on a case-by-case basis, subject to the following conditions:
  - (i) Maximum length: As a guideline, heat dissipation areas shall not be longer than 3,500 feet, measured from the point where the waste discharge enters the stream.
  - (ii) Maximum width: Heat dissipation areas shall not exceed a maximum width of two-thirds the surface width measured from shore to shore at any stage of tide. Within any one heat dissipation area only one shore shall be used in determining the limits of the area.
  - (iii) Maximum cross section: Heat dissipation areas shall not exceed a maximum of one-fourth of the cross sectional area of the stream.
  - (iv) Adjacent heat dissipation areas: Where waste discharges would result in heat dissipation areas in such close proximity to each other as to impair protected uses, additional limitations may be prescribed to avoid such impairment.

(v) Rate of temperature change: The rate of temperature change in designated heat dissipation areas shall not cause mortality of fish or shellfish.

(vi) Heat dissipation area determinations: The determination of heat dissipation areas shall take into special consideration the extent and nature of the receiving waters so as to meet the extent and purpose of the criteria and standards including provision for the passage of free-swimming and drifting organisms so that negligible or no effects are produced on their populations.

vii. Radioactivity:

Current U.S. Public Health Service Drinking Water Standards shall apply.

viii. Bacterial quality:

Fecal coliform not to exceed 770/100 ml as a geometric average. Samples shall be taken at such frequency and location as to permit valid interpretation. Appropriate sanitary surveys shall be carried out as a supplement to such sampling and laboratory analyses.

ix. Total dissolved solids:

Not to exceed 133 per cent of background or 500 mg/l, whichever is less.

x. Total alkalinity:

Between 20 and 120 mg/l.

xi. Phenols:

Not to exceed 0.005 mg/l.

xii. Synthetic detergents (M.B.A.S.)

Maximum 30-day average 1.0 mg/l.

xiii. Chlorides:

Maximum 200 mg/l.

xiv. Hardness:

Maximum 30-day average 150 mg/l.

(d) Designated uses and quality criteria for Zone 4

1. Zone 4 designated uses:

For that portion of the Delaware River from R.M. 95.0 below mouth of Big Timber Creek (New Jersey) to R.M. 78.8 (Pennsylvania-Delaware Line): Industrial water supply after reasonable treatment; wildlife, maintenance of resident fish and other aquatic life, passage of anadromous fish; secondary contact recreation; and navigation.

2. Zone 4 quality criteria:

i. Floating, suspended, colloidal and settleable solids; oil, grease, color and turbidity:

(1) None noticeable in the water or deposited along the shore or on the aquatic substrata in quantities detrimental to the natural biota. None which would render the waters unsuitable for the designated uses.

(2) Maximum 30-day average of 40 Nephelometric Turbidity Units (NTU) a maximum of 150 NTU at any time.

ii. Toxic or deleterious substances, including but not limited to mineral acids, caustic alkali, cyanides, heavy metals, carbon dioxide, ammonia or ammonium compounds, chlorine, phenols, pesticides:

None, either alone or in combination with other substances, in such concentrations as to affect humans or be detrimental to the natural aquatic biota, produce undesirable aquatic life, or which would render the water unsuitable for the designated uses.

iii. Taste and odor producing substances:

None offensive to humans or which would produce offensive tastes and/or odors in biota used for human consumption. None which would render the waters unsuitable for the designated uses.

iv. pH:

Between 6.5 and 8.5.

v. Dissolved oxygen:

24 hour average concentration shall not be less than 3.5 mg/l. During the periods from April 1 to June 15 and September 16 to December 31 the seasonal average shall not be less than 6.5 mg/l.

vi. Temperature:

- (1) General: Shall not exceed 5° F (2.8° C) above the average 24 hour temperature gradient displayed during the 1961-1966 period, or a maximum of 86° F (30.0° C) whichever is less. Temperatures shall be measured outside of designated heat dissipation areas.
- (2) Heat dissipation areas: The limitations specified above may be exceeded in designated heat dissipation areas by special permission on a case-by-case basis, subject to the following conditions:
  - (i) Maximum length: As a guideline, heat dissipation areas shall not be longer than 3,500 feet, measured from the point where the waste discharge enters the stream.
  - (ii) Maximum width: Heat dissipation areas shall not exceed a maximum width of two-thirds the surface width measured from shore to shore at any stage of tide. Within any one heat dissipation area only one shore shall be used in determining the limits of the area.
  - (iii) Maximum cross section: Heat dissipation areas shall not exceed a maximum of one-fourth of the cross sectional area of the stream.
  - (iv) Adjacent heat dissipation areas: Where waste discharges would result in heat dissipation areas in such close proximity to each other as to impair protected uses, additional limitations may be prescribed to avoid such impairment.
  - (v) Rate of temperature change: The rate of temperature change in designated heat dissipation areas shall not cause mortality of fish or shellfish.
  - (vi) Heat dissipation area determinations: The determination of heat dissipation areas shall take into special consideration the extent and nature of the receiving waters so as to meet the extent and purpose of the criteria and standards including provision for the passage of free-swimming and drifting organisms so that negligible or no effects are produced on their populations.

vii. Radioactivity:

Current U.S. Public Health Service Drinking Water Standards shall apply.

viii. Bacterial quality:

Fecal coliform not to exceed 770/100 ml as a geometric average. Samples shall be taken at such frequency and location as to permit valid interpretation. Appropriate sanitary surveys shall be carried out as a supplement to such sampling and laboratory analyses.

ix. Total dissolved solids:

Not to exceed 133 percent of background as of October 1, 1972.

x. Total alkalinity:

Between 20 and 120 mg/l.

xi. Phenols:

Not to exceed 0.02 mg/l.

xii. Synthetic detergents: (M.B.A.S.)

Maximum 30-day average 1.0 mg/l.

xiii. Chlorides:

Maximum 250 mg/l at R.M. 92.47.

(e) Designated uses and quality criteria for Zone 5

1. Zone 5 designated uses:

For that portion of the Delaware River from R.M. 78.8 (Pennsylvania-Delaware Line) to R.M. 48.2 (Liston Point, Delaware): Industrial water supply after reasonable treatment, navigation, wildlife, passage of anadromous fish, from R.M. 78.8 to R.M. 48.2; maintenance of resident fish and other aquatic life from R.M. 78.8 to R.M. 70.0; propagation of resident fish and other aquatic life from R.M. 70.0 to R.M. 48.2; secondary contact recreation from R.M. 78.8 to R.M. 59.5 (Chesapeake and Delaware Canal, Delaware); primary contact recreation from R.M. 59.5 to R.M. 48.2.

2. Zone 5 quality criteria:

i. Floating, suspended, colloidal and settleable solids; oil, grease, color and turbidity:

(1) None noticeable in the water or deposited along the shore or on the aquatic substrata in quantities detrimental to the natural biota. None which would render the waters unsuitable for the designated uses.

(2) Maximum 30-day average of 40 Nephelometric Turbidity Units (NTU) a maximum of 150 NTU at any time.

- ii. Toxic or deleterious substances, including but not limited to mineral acids, caustic alkali, cyanides, heavy metals, carbon dioxide, ammonia or ammonium compounds, chlorine, phenols, pesticides:

None, either alone or in combination with other substances, in such concentrations as to affect humans or be detrimental to the natural aquatic biota, produce undesirable aquatic life, or which would render the water unsuitable for the designated uses.

- iii. Taste and odor producing substances:

None offensive to humans or which would produce offensive tastes and/or odors in biota used for human consumption. None which would render the waters unsuitable for the designated uses.

- iv. pH:

Between 6.5 and 8.5.

- v. Dissolved oxygen:

24 hour average concentration shall not be less than 3.5 mg/l at R.M. 78.8, 4.5 mg/l at R.M. 70.0 and 6.0 mg/l at R.M. 59.5. During the periods from April 1 to June 15 and September 16 to December 31 the seasonal average shall not be less than 6.5 mg/l in the entire zone.

- vi. Temperature:

(1) General: Shall not be raised above ambient by more than 4° F (2.2° C) during September through May nor more than 1.5° F (0.8° C) during June through August, nor shall maximum temperatures exceed 86° F (30.0° C). Temperatures shall be measured outside of designated heat dissipation areas.

(2) Heat dissipation areas: The limitations specified above may be exceeded in designated heat dissipation areas by special permission on a case-by-case basis, subject to the following conditions:

(i) Maximum length: As a guideline, heat dissipation areas shall not be longer than 3,500 feet, measured from the point where the waste discharge enters the stream.

- (ii) Adjacent heat dissipation areas: Where waste discharges would result in heat dissipation areas in such close proximity to each other as to impair protected uses, additional limitations may be prescribed to avoid such impairment.
- (iii) Rate of temperature change: The rate of temperature change in designated heat dissipation areas shall not cause mortality of fish or shellfish.
- (iv) Heat dissipation area determinations: The determination of heat dissipation areas shall take into special consideration the extent and nature of the receiving waters so as to meet the intent and purpose of the criteria and standards including provision for the passage of free-swimming and drifting organisms so that negligible or no effects are produced on their populations.

vii. Radioactivity:

Current U.S. Public Health Service Drinking Water Standards shall apply.

viii. Bacterial quality:

Fecal coliform not to exceed 770/100 ml as a geometric average from R.M. 78.8 to R.M. 59.5 and 200/100 ml from R.M. 59.5 to R.M. 48.2. Samples shall be taken at such frequency and location as to permit valid interpretation. Appropriate sanitary surveys shall be carried out as a supplement to such sampling and laboratory analyses.

ix. Total alkalinity:

Between 20 and 120 mg/l.

x. Phenols:

Not to exceed 0.01 mg/l.

xi. Synthetic detergents: (M.B.A.S.)

Maximum 30-day average 1.0 mg/l.

(f) Designated uses and quality criteria for Zone 6

1. Zone 6 designated uses:

For that portion of the Delaware Bay from R.M. 48.2 (Liston Point, Delaware) to R.M. 0.0 (Atlantic Ocean): Industrial water supply after reasonable treatment; wildlife, maintenance and propagation of resident fish, shellfish and other aquatic life, and passage of anadromous fish; primary contact recreation; and navigation.

2. Zone 6 quality criteria:

i. Floating, suspended, colloidal and settleable solids; oil, grease, color and turbidity:

- (1) None noticeable in the water or deposited along the shore or on the aquatic substrata in quantities detrimental to the natural biota. None which would render the waters unsuitable for the designated uses.
- (2) Maximum 30-day average of 40 Nephelometric Turbidity Units (NTU) a maximum of 150 NTU at any time.

ii. Toxic or deleterious substances, including but not limited to mineral acids, caustic alkali, cyanides, heavy metals, carbon dioxide, ammonia or ammonium compounds, chlorine, phenols, pesticides:

None, either alone or in combination with other substances, in such concentrations as to affect humans or be detrimental to the natural aquatic biota, produce undesirable aquatic life, or which would render the water unsuitable for the designated uses.

iii. Taste and odor producing substances:

None offensive to humans or which would produce offensive tastes and/or odors in biota used for human consumption. None which would render the waters unsuitable for the designated uses.

iv. pH:

Between 6.5 and 8.5.

v. Dissolved oxygen:

24 hour average concentration shall not be less than 6.0 mg/l. Not less than 5.0 mg/l at any time, unless due to natural conditions.

vi. Temperature:

- (1) General: Shall not be raised above ambient by more than 4° F (2.2° C) during September through May nor more than 1.5° F (0.8° C) during June through August, nor shall maximum temperatures exceed 85° F (29.4° C). Temperatures shall be measured outside of designated heat dissipation areas.

- (2) Heat dissipation areas: The limitations specified above may be exceeded in designated heat dissipation areas by special permission on a case-by-case basis, subject to the following conditions:
- (i) Maximum length: As a guideline, heat dissipation areas shall not be longer than 3,500 feet, measured from the point where the waste discharge enters the stream.
  - (ii) Adjacent heat dissipation areas: Where waste discharges would result in heat dissipation areas in such close proximity to each other as to impair protected uses, additional limitations may be prescribed to avoid such impairment.
  - (iii) Rate of temperature change: The rate of temperature change in designated heat dissipation areas shall not cause mortality of fish or shellfish.
  - (iv) Heat dissipation area determinations: The determination of heat dissipation areas shall take into special consideration the extent and nature of the receiving waters so as to meet the intent and purpose of the criteria and standards including provision for the passage of free-swimming and drifting organisms so that negligible or no effects are produced on their populations.

vii. Radioactivity:

Current U.S. Public Health Service Drinking Water Standards shall apply.

viii. Bacterial quality:

- (1) Approved shellfish harvesting waters: Where harvesting of shellfish is permitted, requirements established by the National Shellfish Sanitation Program as set forth in its current manual of operations shall apply.
- (2) All other waters: Fecal coliform levels shall not exceed a geometric average of 200/100 ml.

Samples shall be obtained at sufficient frequencies and at locations and during periods which will permit valid interpretation of laboratory analyses. Appropriate sanitary surveys shall be carried out as a supplement to such sampling and laboratory analyses.

- ix. Total alkalinity:  
Between 20 and 120 mg/l.
- x. Phenols:  
Not to exceed 0.01 mg/l.
- xi. Synthetic detergents: (M.B.A.S.)  
Maximum 30-day average 1.0 mg/l.

7:9-4.10 Surface Water Classifications

(a) The surface water classifications for Central Pine Barrens are:

- 1. Class FW-Central Pine Barrens is described as follows:
  - i. Mullica River Watershed
    - (1) Mullica River and tributaries upstream from Seventh Avenue, Sweetwater, Atlantic County (head of tide), except those designated FW-1.
    - (2) Freshwater segments of tributaries to the Mullica River between head of tide and Lower Bank Road bridge at Lower Bank, except those designated FW-1.
    - (3) Wading River and tributaries upstream from Charcoal Landing, Burlington County (head of tide), except those designated FW-1.
      - (i) Freshwater segments of tributaries to the Wading River between head of tide and Route 542 bridge.
      - (ii) Freshwater segment of Ives Branch and its tributaries from the 10 foot contour.
    - (4) West Branch Bass River and tributaries upstream from the Bass River State Forest boundary (where it crosses the West Branch Bass River, downstream of Stage Road), except those designated FW-1.
    - (5) East Branch Bass River and tributaries upstream from the Bass River State Forest boundary (where it crosses the East Branch Bass River, downstream of Stage Road), except those designated FW-1.
    - (6) Indian Cabin Creek and tributaries upstream from Egg Harbor City Lake.

- ii. Cedar Creek (Lacey Twp.) and tributaries upstream of Route 9 (head of tide) surrounded by the northern ridgeline; and the southern ridgeline west of the Garden State Parkway and the southern ridgeline (between the Garden State Parkway and Route 9) as defined by Lacey Road, Manchester Avenue, and Haines Road.
- iii. All fresh waters west of the Garden State Parkway bounded by the Mullica and Cedar Creek (Lacey Township) watersheds, except those designated FW-1.
- iv. Toms River Watershed:
  - (1) Davenport Branch and tributaries upstream from Route 530.
  - (2) Unnamed tributary to Michaels Branch through Keswick Grove and tributaries upstream from the east crossing of the Penn Central Railroad to source.
- v. Rancocas Creek Watershed:
  - (1) South Branch Rancocas Creek and tributaries upstream from Route 206 to source, except those designated FW-1.
  - (2) Jade Run and tributaries upstream from Route 206, except those designated FW-1.
  - (3) Mt. Misery Brook and tributaries upstream of the western intersection of the Lebanon State Forest boundary at Mt. Misery, except those designated FW-1.
  - (4) Tributaries to Pole Bridge Branch upstream of the Penn Central Railroad.
- vi. Those surface waters that flow through State and National parks, forests, and fish and wildlife lands.
  - (1) Greenwood Branch and tributaries within the boundaries of Greenwood Rancocas Reserve and Lebanon State Forest.
  - (2) Tributaries to Country Lake, Mirror Lake and Hanover Lake within the boundaries of the Whitesbog Fish and Wildlife Management Area and Lebanon State Forest.
  - (3) All surface waters within the Wharton Tract State Forest.
  - (4) All surface waters within the following portions of the Bass River State Forest:
    - (i) That portion located on the New Gretna and Oswego Lake USGS Quadrangle Maps which is uninterrupted by private lands and contiguous to the Ives Branch and Bartletts Branch watersheds lying both north and south of Stage Road.

(ii) That portion located on the New Gretna USGS Quadrangle Map which is uninterrupted by private lands and contiguous to and lying to the south of Stage Road.

(iii) That portion located on the New Gretna and Oswego Lake USGS Quadrangle Maps which is uninterrupted by private lands and contiguous to and lying to the southeast of the Garden State Parkway.

2. Class FW-Lower Mullica and Wading Rivers - Central Pine Barrens is described as follows:

- i. Mullica River and tidal portions of its tributaries, from head of tide to Lower Bank Road Bridge at Lower Bank.
- ii. Wading River and tidal portions of its tributaries, from head of tide to Route 542 Bridge.

(b) Atlantic Coastal Plain Classifications are:

1. Class FW-1 Note: (All boundaries referred to in i. through vii. as they existed at the time of adoption of these classifications).

(Manasquan River Watershed)

- i. Allaire State Park
  - (1) Those portions of the first and second southerly tributaries to the Manasquan River west of Hospital Road situated wholly within the Allaire State Park boundaries.
  - (2) The easterly tributary to the brook feeding Brisbane Lake situated wholly within the Allaire State Park boundaries downstream to its confluence with the westerly tributary.

(Cedar Creek Watershed)

- ii. Greenwood Forest Fish & Game Tract
  - (1) Webbs Mill Branch and tributaries situated wholly within the Greenwood Forest Tract boundaries.
  - (2) Chamberlain's Branch and five tributaries originating in and situated wholly within the Greenwood Forest Tract boundaries upstream from the blueberry farm exception, also other tributaries to

Chamberlain's Branch situated wholly within the Greenwood Forest Tract boundaries.

(Wading River Watershed)

iii. Greenwood  
Forest Fish  
& Game Tract

Westerly tributary to the Howardsville Cranberry Bog Reservoir and tributaries situated wholly within the Greenwood Forest Tract boundaries.

(Barnegat Bay Watershed)

iv. Island Beach  
State Park

All the fresh water ponds on Island Beach State Park.

(Bass River Watershed)

v. Bass River  
State Forest

(1) Tommy's Branch from its headwaters downstream to Bass River State Forest Recreation Area service road.

(2) Falkenburg Branch of Lake Absegami from its headwaters downstream to the Lake.

(Mullica River Watershed)

vi. Wharton Tract

(1) Deep Run and tributaries from its headwaters downstream to Springer's Brook.

(2) Skit Branch and tributaries from its headwaters downstream to confluence with Robert's Branch.

(3) Tulpehocken Creek and tributaries from its origin downstream to its confluence with Featherbed Branch.

(4) The westerly tributaries to Tulpehocken Creek and those natural ponds within the lands bounded by Hawkins Road, Hampton Gate Road, and Sandy Ridge Road.

(5) Stream in the southeasterly corner of the Wharton Tract lying between Ridge Road and Seaf Weeks Road down to the Wharton Tract Boundaries.

- (6) Brooks and tributaries to Batsto River between and immediately to the west of Tylertown and Crowleytown from its headwaters downstream to the head of tide at mean high water.
- (7) The easterly branches of the Batsto River from Batsto Village upstream to the confluence of Skits Branch.
- (8) Gun Branch from its headwaters downstream to U.S. Route 206.

(Great Egg Harbor River Watershed)

- vii. Tuckahoe Public Hunting and Fishing Grounds      Hawkin's Creek and the next adjacent tributary to the Great Egg Harbor River lying to the north from their origin downstream to where the influence of impounding occurs.

- 2. Class FW-Central Pine Barrens (See subsection (a) of this section)
- 3. Class FW-2 Trout Production: None
- 4. Class FW-2 Trout Maintenance:

(Shark River Watershed)

- i. Shark River and tributaries from Route 33 bridge downstream to Brighton Avenue Bridge in Glendola.

(Metedeconk River Watershed)

- ii. Metedeconk River N/Br. (Lakewood) and tributaries from Aldrich Road downstream to Lanes Mills, except those segments designated FW-2 Nontrout.
- iii. Muddy Ford Brook (Larrabee's Crossing) and tributaries, except those segments designated FW-2 Nontrout.
- iv. Titmouse Brook and tributaries, entire length.

(Manasquan River Watershed)

- v. Manasquan River and tributaries from Rt. 9 bridge downstream to the "Narrows" in the vicinity of the Meadows Marina except those designated FW-1 and FW-2 Nontrout.
- vi. Mingamahone Brook (Farmingdale) and tributaries entire length, except those classified FW-1.

(Toms River Watershed)

- vii. Toms River and tributaries from Rt. 528 bridge downstream to Rt. 547 bridge in Whitesville.
  - 5. Class FW-2 Nontrout:
    - i. Cranberry Brook and tributaries upstream from the intake of the Monmouth Consolidated Water Company near the New York-Long Branch Railroad Crossing.\*
    - ii. Shark River and tributaries upstream from Route 33 bridge.\*
    - iii. Jumping Brook and tributaries above intake of Monmouth Consolidated Water Company near Old Corlies Avenue.\*
    - iv. Main stem of Manasquan River and tributaries upstream from Route 9.\*
    - v. Absecon Creek and tributaries upstream from Atlantic City Reservoir Dam in the City of Absecon.\*
    - vi. All other fresh nontidal and fresh tidal water basins or portions thereof in the Coastal Plain except those designated as FW-1, FW-Central Pine Barrens, and FW-2 Trout Maintenance.
  - 6. Class FW-Lower Mullica and Wading Rivers - Central Pine Barrens (See subsection (a) of this section).
  - 7. Class TW-1:
    - i. All tidal waters of Shark River and tributaries from head of saline influence downstream to surf waters.
    - ii. All tidal waters of Jumping Brook and tributaries downstream from head of saline influence downstream to Shark River and to surf waters.
    - iii. All tidal waters of the Manasquan River and tributaries downstream from two miles east of the Garden State Parkway to surf waters.
    - iv. All tidal waters situated wholly within Port Republic Fish and Wildlife Management Area.
    - v. All tidal waters situated wholly within Brigantine Wildlife Refuge.
    - vi. All other tidal waters of the Plain downstream from the head of tide to surf waters except those designated FW-Lower Mullica and Wading Rivers - Central Pine Barrens.

\* Potable Water Supply

8. Class TW-2:

None

9. Class TW-3:

None

10. Class CW-1:

Ocean waters within 1,500 feet from mean low tide to a depth of 15 feet, whichever is more distant from the mean low tide line, from Sandy Hook to Cape May Point.

11. Class CW-2:

Ocean waters not included under Class CW-1 out to the three mile limit.

(c) Delaware River Basin Classifications are:

Note: Classifications of the Delaware River and Delaware Bay are contained in section 9 of this subchapter.

1. Class FW-1: Note: (All boundaries of State or National lands referred to in i. through x, as they existed at the time of adoption of these classifications).

(Clove Brook Watershed)

i. High Point State Park (1) The second and third northerly tributaries to Clove Brook, tributaries to Steenykill Lake, and tributaries downstream of Steenykill Lake to their confluence with Clove Brook or the High Point State Park boundaries which originate in High Point State Park.

(2) The northerly tributaries to Mill Brook due west of Steenykill Lake within the High Point State Park boundaries.\*

(Shimers Brook Watershed)

ii. High Point State Park All that portion and tributaries to Shimers Brook and tributaries within the High Point State Park boundaries.\*

\* Potable Water Supply

(Flat Brook Watershed)

iii. High Point  
State Park and  
Stokes State  
Forest

All surface waters of the Flatbrook  
Drainage within the boundaries of  
High Point State Park and Stokes  
State Forest except 1-9 below,  
which are classified elsewhere.\*

- (1) Saw Mill Pond and Big Flat Brook downstream.
- (2) Mashipacong Pond and its outlet stream  
(Parker Brook) to its confluence with the  
Big Flat Brook.
- (3) Lake Wapalanne and its outlet stream to  
its confluence with the Big Flat Brook.
- (4) Lake Ocquittunk and waters connecting it with the  
Big Flat Brook.
- (5) Stony Lake and its outlet stream (Stony Brook)  
downstream to its confluence with the Big  
Flat Brook.
- (6) Kittatinny Lake, that portion of its inlet  
stream outside the Stokes State Forest boundaries,  
its outlet stream including the Shotwell Camping  
Area tributary to its confluence with the Big  
Flat Brook.
- (7) Deer Lake, its outlet stream to Lake Ashroe,  
Lake Ashroe and portions of its tributaries outside  
the Stokes State Forest boundaries, and its outlet  
stream to its confluence with the Big Flat Brook.
- (8) Lake Shawanni and its outlet stream to its  
confluence with the Big Flat Brook.
- (9) Crigger Brook and tributary to its confluence  
with the Big Flat Brook.

(Flat Brook Watershed)

iv. Fish and Game  
Tracts

- (1) Tributary to the Little  
Flat Brook originating north  
of the Bevans-Layton Road  
downstream to the first pond  
adjacent to the Fish and Game  
headquarters building.\*

\*Potable Water Supply

- (2) Two tributaries to the Big Flat Brook originating along Struble Road in Stokes State Forest downstream to their confluence with the Big Flat Brook on Fish and Game property boundaries.\*

v. Worthington Tract

(Dunnfield Creek Watershed)

Sunfish pond, its outlet stream to the Delaware River, and all unnamed waters situated wholly within the Worthington Tract Boundaries.

(Pequest Watershed)

vi. Wittingham Tract

Northwesterly tributaries to the Pequest including Big Spring within the Wittingham Tract (southwest of Springdale) boundaries from their origin to their confluence with the Pequest River.\*

vii. Johnsonburg Tract

Mud Pond and outlet stream down to the Erie-Lakawanna Railroad trestle north of Johnsonburg.\*

viii. Allamuchy State Park

All tributaries located wholly within the Allamuchy State Park and which flow into Allamuchy Pond.\*

(Musconetcong Watershed)

ix. Allamuchy State Park

All those tributaries to Deer Park Pond and to its outlet stream located wholly within Allamuchy State Park.\*

(Steele Run Watershed)

x. Washington Crossing State Park

That portion of Steele Run in Washington Crossing State Park, located upstream of New Jersey Route 29.\*

(Crosswicks Creek Watershed)

xi. Colliers Mills Fish & Game Tract

All tributaries to Lahaway Creek originating in the Colliers Mills Tract NNE of Archers Corner from their origin down to Lahaway Creek.\*

\* Potable Water Supply

xii. Lebanon State Forest

(Rancocas Creek Watershed)

- (1) Deer Park Branch and tributaries near Buckingham downstream to its confluence with Pole Bridge Branch.\*
- (2) Tributaries to the South Branch of Mount Misery Brook situated wholly within Lebanon State Forest boundaries.\*
- (3) Cooper Branch and tributaries downstream to Pakim Pond, and tributaries to Cooper Branch downstream of Pakim Pond situated wholly within the boundaries of Lebanon State Forest.\*
- (4) Shinns Branch and tributaries situated wholly within the Lebanon State Forest boundaries.\*
- (5) Jade Run situated within the Lebanon State Forest boundaries.\*
- (6) MacDonald's Branch and tributaries situated within the Lebanon State Forest boundaries.\*

xiii. Pasadena Fish & Game Tract

(Rancocas Creek Watershed)  
The two easterly branches of the South Branch of Mount Misery Brook situated wholly within the Pasadena Tract boundaries.\*

xiv. Glassboro Fish & Game Tract

(Maurice River Watershed)  
That tributary to the Branch of Little East Run having its confluence just south of Stangor Avenue. First and second easterly tributaries to Little East Run north of Academy Avenue.

xv. Millville Fish & Game Tract

- (1) Joshua and Pine Branches of Buckshutem Creek to their confluences with Buckshutem Creek.
- (2) Gravelly Run downstream to the Millville Fish and Game Tract boundaries.

\* Potable Water Supply

- xvi. Peaselee  
Fish & Game  
Tract
- (1) Middle Branch of Muskee Creek from its origin to the Peaselee Tract boundaries.
  - (2) Cedar Branch of the Manumuski River from its origin to the Peaselee Tract boundaries.
  - (3) Those portions of tributaries to Slab Branch situated wholly within the Peaselee Fish and Game Tract boundaries.
- (Nantuxent Creek Watershed)
- xvii. Millville  
Fish & Game  
Tract
- Cedar and Mile Branches to Shaw's Mill Pond.
- (Dividing Creek Watershed)
- xviii. Millville  
Fish & Game  
Tract
- (1) Those tributaries to Cedar Creek originating and situated wholly within the Fish and Game Millville Tract boundaries.
  - (2) Those portions of tributaries to Dividing Creek situated wholly within the Millville Fish and Game Tract boundaries north of Whitehead Station.
- (Middle Marsh Creek Watershed)
- xix. Dix Fish &  
Game Tract
- All fresh waters arising in and situated wholly within the Dix Tract boundaries.
- (West Creek Watershed)
- xx. Belleplain  
State Forest
- (1) The portion of that tributary to West Creek originating about 0.9 miles southeast from Hoffman's Mill and situated wholly within the Belleplain State Forest boundaries.
  - (2) Eastern Branch of the easterly tributary to Pickle Factory Pond from its origin to its confluence with the western branch.

- (3) Those tributaries to West Creek which originate approximately 0.5 miles upstream of Hoffman's Mill and which are located wholly within the Belleplaine State Forest boundaries.

(East Creek Watershed)

xxi. Belleplaine  
State Forest

- (1) All tributaries to Lake Nummi from their origin downstream to Lake Nummi.
- (2) Those two tributaries to Savages Run and portions thereof downstream of Lake Nummi that are situated wholly within the Belleplaine State Forest boundaries.
- (3) A stream and tributaries thereto originating just south of East Creek Mill Road, NNE of Eldora 1.2 + miles and situated wholly within the Belleplaine State Forest boundaries.

xxii. Delaware Water  
Gap National  
Recreation Area  
(DWGNRA)

- (1) Van Campen's Brook above the Village of Millbrook.\*
- (2) All tributaries to the Flatbrook running from the Kittatiny Ridge and situated wholly within the proposed DWGNRA boundaries.\*
- (3) Rundle Brook upstream of Flatbrook Road.\*
- (4) Smith Ferry Brook.\*
- (5) Donkey's Corner Brook\*
- (6) Sambo Island Brook and Pond.\*
- (7) Coppermine Brook in Pahaquarry.\*
- (8) Dunnfield Creek to Route I-80.\*

2. Class FW- Central Pine Barrens (See subsection (a) of this section).

\* Potable Water Supply

3. Class FW-2 Trout Production:

(Delaware River Tributaries (Sussex County))

- i. Clove Brook (Montague) and tributaries entire length except those segments designated FW-1.\*
- ii. Sandyston Creek (Sandyston) and tributaries entire length.\*
- iii. Shimers Brook (Millville) and tributaries entire length, except those segments designated FW-1\*.
- iv. White Brook (Montague) and tributaries entire length.\*  
(Delaware River Tributaries (Warren County))
- v. Buckhorn Creek (Hutchinson) and tributaries entire length.\*
- vi. Dunnfield Creek (Del. Water Gap) and tributaries except those segments designated FW-1.\*
- vii. Lomisons Glen Brook (Lomisons Glen) and tributaries entire length.\*
- viii. Van Campens Brook (Millbrook) and tributaries entire length except those segments designated FW-1.\*

(Flat Brook Watershed)

- ix. Beer's Creek (Shaytown) and tributaries entire length.\*
- x. Big Flat Brook and tributaries from confluence with Parker Brook downstream to and including Blewitt Tract, except those designated FW-1, FW-2 Trout Maintenance, and FW-2 Nontrout.\*
- xi. Parker Brook (Montague) and tributaries entire length, except those segments designated FW-1.\*
- xii. Shawanni Creek (Walpack) and tributaries entire length.\*
- xiii. Stony Brook (Stokes S.F.) and tributaries entire length.\*
- xiv. Tillman Brook (Walpack) and tributaries entire length.\*
- xv. Tuttles Corner Brook (Tuttles Corner) and tributaries entire length.\*

(Paulins Kill River Watershed)

- xvi. Paulins Kill East Branch and tributaries from Limecrest Quarry downstream to confluence with Paulins Kill West Branch, except those designated FW-2 Trout Maintenance.\*

\* Potable Water Supply

- xvii. Paulins Kill tributary (Emmens Station) and tributaries entire length.\*
- xviii. Paulins Kill tributary (Stillwater Station) and tributaries entire length.\*
- xix. Yard's Creek and tributaries entire length.\*
- xx. Trout Brook (Middleville) and tributaries downstream to confluence with Pond Brook.\*

(Pequest River Watershed)

- xxi. Bear Brook (Johnsonburg) and tributaries entire length.\*
- xxii. Furnace Brook (Oxford) and tributaries upstream of railroad bridge at Oxford.\*
- xxiii. Independence Creek (Alphano) and tributaries upstream of Alphano Road.\*
- xxiv. Trout Brook (Tranquility) and tributaries except those designated FW-2 Nontrout.\*

(Pohatcong Creek Watershed)

- xxv. Brass Castle Creek (Brass Castle) and tributaries entire length.\*
- xxvi. Merrill Brook (Harmony) and tributaries entire length.\*
- xxvii. Mill Brook (Broadway) and tributaries entire length.\*
- xxviii. Pohatcong Creek and tributaries upstream from Karrsville Bridge.\*

(Musconetcong River Watershed)

- xxix. Beatty's Brook (Penwell) and tributaries entire length.\*
- xxx. Hances Brook (Rockport) and tributaries entire length.\*
- xxxi. Musconetcong River (trib.) (Changewater) and tributaries entire length.\*
- xxxii. Musconetcong River (trib.) (Franklin) and tributaries entire length.\*
- xxxiii. Musconetcong River (trib.) (Port Murray) and tributaries entire length.\*
- xxxiv. Schooley's Mt. Brook (Schooley's Mt.) and tributaries entire length.\*

\* Potable Water Supply

- xxxv. Stephensburg Creek (Stephensburg) and tributaries entire length.\*
- xxxvi. West Portal Brook (West Portal) and tributaries entire length.\*  
(Delaware River Tributaries (Hunterdon County))
- xxxvii. Delaware River tributary (Holland) and tributaries entire length.\*
- xxxviii. Little York Brook (Little York) and tributaries entire length.\*
- xxxix. Spring Mills Brook (Spring Mills) and tributaries upstream of Route 519 bridge, Spring Mills.\*
- 4. Class FW-2 Trout Maintenance:  
(Delaware River Tributaries (Sussex County))
  - i. Lake Marcia.  
(Flat Brook Watershed)
  - ii. Flat Brook and tributaries upstream from Delaware River except those segments designated FW-1, FW-2 Trout Production, and FW-2 Nontrout.\*
  - iii. Stony Lake (Stokes State Forest).  
(Paulins Kill Watershed)
  - iv. Blair Creek (Hardwick Center) and tributaries upstream from Paulins Kill River to, but not including, Bass Lake.\*
  - v. Alms House Brook (Andover) and tributaries upstream from, but not including, County Farm Pond, except those segments designated FW-2 Nontrout.\*
  - vi. Culver's Brook (Frankford), including Culver's Lake, and tributaries entire length.\*
  - vii. Jacksonburg Creek (Blairstown) and tributaries entire length.\*
  - viii. Paulina Creek (Paulina) and tributaries entire length.\*
  - ix. Paulins Kill and tributaries from confluence of East Branch and West Branch downstream to Route 15 (Bench Mark 507) and from Paulins Kill Lake dam downstream to Delaware River except those segments designated FW-1, FW-2 Trout Production, and FW-2 Nontrout.\*

\* Potable Water Supply

- x. Sparta Junction Brook (Sparta Junction) and tributaries entire length.
- xi. Swartswood Creek (Swartswood) and tributaries, upstream of and including Swartswood Lake.\*  
(Pequest River Watershed)
- xii. Andover Junction Brook (Andover) and tributaries except those segments designated FW-2 Nontrout.\*
- xiii. Bear Creek (Johnsonburg) and tributaries except those segments designated FW-1, FW-2 Trout Production and FW-2 Nontrout.\*
- xiv. Trout Brook (Hope), entire length.\*
- xv. Brookaloo Swamp (Hope) and tributaries entire length.\*
- xvi. Honey Run (Hope) and tributaries, entire length.\*
- xvii. Mountain Lake Brook (Mt. Lake) and tributaries, upstream of and including Mountain Lake, entire length.\*
- xviii. New Wawayanda Lake (Andover).\*
- xix. Gardners Lake (Andover Twp.)\*
- xx. Lake Illif (Andover Twp.)\*
- xxi. Pequest River and tributaries from source downstream to Tranquility Bridge and from Townsbury bridge to Delaware River, except those segments designated FW-1, FW-2 Trout Production, and FW-2 Nontrout.\*
- xxii. Silver Lake.
- xxiii. Tar Hill Brook (Lake Lenape) and tributaries upstream of Lake Lenape.\*  
(Delaware River Tributaries (Warren County))
- xxiv. Delawanna Creek (Delaware) and tributaries entire length.\*
- xxv. Lopatcong Creek (Harkers Hollow) from source downstream to Route 22 bridge.\*
- xxvi. Pophandusing Creek (Belvidere) and tributaries entire length.\*  
(Pohatcong Creek Watershed)

\* Potable Water Supply

xxvii. Pohatcong Creek and tributaries from Karrsville Bridge to Delaware River, except those segments designated FW-2 Trout Production.\*

(Musconetcong River Watershed)

xxviii. Hatchery Brook (Hackettstown) and tributaries entire length.\*

xxix. Lake Hopatcong and tributaries entire length.\*

xxx. Lubbers Run (Byram) and tributaries entire length.\*

xxxi. Mine Brook (Mount Olive) and tributaries upstream of upper Mine Brook Reservoir.\*

xxxii. Musconetcong River and tributaries from Lake Hopatcong downstream to Delaware River except those segments designated FW-2 Trout Production and FW-2 Nontrout.\*

xxxiii. Wills Brook (Mount Olive) and tributaries entire length.\*

xxxiv. Cranberry Lake (Byram).

(Delaware River Tributaries (Hunterdon County))

xxxv. Alexauken Creek (Lambertville) and tributaries entire length.\*

xxxvi. Hakiwokake Creek (Milford) and tributaries entire length, except those segments classified FW-2 Trout Production.\*

xxxvii. Hakiwokake Creek (trib.) (Wydner) and tributaries entire length.

xxxviii. Hakiwokake Creek (Frenchtown) and tributaries from Route 519 bridge downstream to Delaware River.\*

xxxix. Lockatong Creek (Raven Rock) and tributaries from Idell bridge downstream to Delaware River.\*

xL. Plum Brook (Sergeantsville) and tributaries entire length.\*

xLi. Spring Mills Brook (Milford) and tributaries from Route 519 bridge at Spring Mill downstream to confluence with Hakiwokake Creek.\*

xLii. Wichecheoke Creek (Stockton) and tributaries from confluence with Plum Brook downstream to Delaware River.\*

(Delaware River Tributaries (Mercer County))

xLiii. Moore Creek (Hopewell) and tributaries entire length.\*  
\* Potable Water Supply

(Assunpink Creek Watershed)

- xLiv. Assunpink Creek (Lawrence) and tributaries from Quaker Bridge downstream to but not including Whitehead Mill Pond, except those designated FW-2 Nontrout.\*
5. Class FW-2 Nontrout:
    - i. The Delaware and Raritan Canal and tributaries, except those segments designated FW-2 Trout Maintenance.\*
    - ii. All tributaries to main stem, Delaware River, upstream from and including Big Timber Creek except those designated as FW-1, FW-Central Pine Barrens, FW-2 Trout Production and FW-2 Trout Maintenance.\*
    - iii. Laurel (Quinton) Lake and Elkinton Mill Pond, tributary to Alloways Creek upstream from their respective dams.\*
    - iv. All streams in Cape May County upstream from head of tide or tidal barriers thereon.\*
    - v. All fresh nontidal and fresh tidal tributaries to main stem, Delaware River, south of Big Timber Creek to Cape May County.
  6. Class TW-1:

Tidal tributaries to main stem, Delaware River and Delaware Bay south from and including Oldman's Creek.
  7. Class TW-2:

Tidal tributaries to main stem, Delaware River, south of Big Timber Creek and north of Oldman's Creek.
  8. Class TW-3:

None

(d) Hackensack River Basin Classifications

1. Class FW-1:

None
2. Class FW-2 Trout Production:

None
3. Class FW-2 Trout Maintenance:

None

\* Potable Water Supply

4. Class FW-2 Nontrout:

- i. Hackensack River Basin above Oradell Dam.\*
- ii. Overpeck Creek and tributaries to tide dam and fresh nontidal and fresh tidal portions of tributaries to Hackensack River downstream from Oradell Dam.

5. Class TW-1:

Hackensack River and all tidal portions of tributaries from Oradell Dam to confluence with Overpeck Creek.

6. Class TW-2:

- i. Overpeck Creek and tidal tributaries from tide dam to confluence with Hackensack River.
- ii. Berry's Creek and all tidal tributaries to Hackensack River below its confluence with Overpeck Creek.
- iii. Hackensack River main stem from Overpeck Creek to the confluence with Berry's Creek.

7. Class TW-3:

Hackensack River main stem downstream of Berry's Creek.

(e) Hudson River, Kill Van Kull, Arthur Kill Basin Classifications

1. Class FW-1:  
None

2. Class FW-2 Trout Production:  
None

3. Class FW-2 Trout Maintenance:  
None

4. Class FW-2 Nontrout:

- i. Rahway River and tributaries above the Pennsylvania Railroad bridge.\*
- ii. Elizabeth River and tributaries above Broad Street Bridge, Elizabeth.
- iii. Morses Creek and tributaries.
- iv. Piles Creek and tributaries.
- v. South Branch Rahway River to Hazelwood Avenue, Rahway.
- vi. Smith Creek and tributaries.

\* Potable Water Supply

- vii. Woodbridge Creek and tributaries.
- viii. All other fresh nontidal and fresh tidal waters not mentioned in this subsection.
  - 5. Class TW-1:
    - None
  - 6. Class TW-2:
    - i. Hudson River and its New Jersey tidal tributaries from a north-south line connecting Constable Hook (Bayonne, New Jersey) to St. George (Staten Island, New York) to the Bergen County (New Jersey) - Rockland County (New York) line.
    - ii. Arthur Kill and its New Jersey tidal tributaries between Outerbridge Crossing and a line connecting Ferry Point (Perth Amboy, New Jersey) to Wards Point (Staten Island, New York).
    - iii. Tidal portion of Rahway River and tidal portions of the tributaries from Route 1-9 crossing upstream to the Pennsylvania Railroad bridge.
    - iv. Tidal portion of South Branch Rahway River to head of tide (Hazelwood Avenue, Rahway).
    - v. All other tidal waters not mentioned herein.
  - 7. Class TW-3:
    - i. Kill Van Kull westerly from a north-south line connecting Constable Hook (Bayonne, New Jersey) to St. George (Staten Island, New York).
    - ii. Arthur Kill from an east-west line connecting Elizabethport (Elizabeth) with Bergen Point (Bayonne) to the Outerbridge Crossing.
    - iii. Tidal portion of Elizabeth River to Broad Street Bridge (Elizabeth).
    - iv. Tidal portion of Piles Creek.
    - v. Tidal portion of Rahway River from its mouth at the Arthur Kill to Route 1-9 crossing.
    - vi. Tidal portion of Smith Creek.
    - vii. Tidal portion of Woodbridge Creek.
    - viii. Tidal portion of Morses Creek.

(f) Passaic River Basin Including Newark Bay Classifications

1. Class FW-1:

(Wanaque Watershed)

i. A.S. Hewitt  
State Forest

- (1) Cooley Brook, tributaries and Surprise Lake situated wholly within the Hewitt State Forest boundaries.
- (2) Green Brook, tributaries and West Pond situated wholly within the Hewitt State Forest boundaries.

(Peguannock Watershed)

ii. City of Newark  
Holdings

- (1) Cedar Pond, Hanks Pond and all tributaries thereto.
- (2) Tributary to Peguannock River at Green Pond Junction.
- (3) Tributary to the Peguannock River joining the main stem 3500' + southeast of the Sussex-Passaic County line, in the vicinity of Jefferson.
- (4) Pacack Brook and tributaries thereto upstream of Canistear Reservoir situated wholly within the boundaries of Newark Watershed.
- (5) Cherry Ridge Brook and tributaries thereto north of Canistear Reservoir situated wholly within Wawayanda State Park and Newark Watershed boundaries.
- (6) The southern branch of the easterly tributary to Canistear Reservoir.
- (7) Peguannock River and tributaries thereto upstream from the confluence with Pacack Brook.
- (8) Northwestern tributary to Oak Ridge Reservoir.
- (9) Westerly tributary to Lake Stockholm Brook situated wholly within the Newark Watershed boundaries.

(10) Lud-Day Brook downstream to its confluence with a tributary from Camp Garfield.

(11) Brook between Hamburg Turnpike and Williamsville-Stockholm Road, downstream to its confluence with Lake Stockholm Brook, north of Route 23.

(Rockaway Watershed)

iii. Berkshire Valley Fish & Game Tract Stephens Brook north of the Berkshire Valley Tract boundaries.

2. Class FW-2 Trout Production:

- i. Bear Swamp Brook (Mahwah) and tributaries entire length.
- ii. Stag Clove Brook (Mahwah) and tributaries entire length.
- iii. Clinton Brook (Newfoundland) and tributaries from Clinton Reservoir Dam to Pequannock River.
- iv. Kanouse Brook (Newfoundland) and tributaries entire length.\*
- v. Cooley Brook (West Milford) and tributaries except those segments classified FW-1.
- vi. Green Brook (West Milford) and tributaries entire length, except those segments classified FW-1.
- vii. Harmony Brook (Brookside) and tributaries entire length.
- viii. Hewitt Brook (West Milford) and tributaries entire length.
- ix. Jackson Brook (Mine Hill) and tributaries upstream of Hurd Park Pond (Dover).
- x. Pequannock River (trib.) (Copperas Mtn.) and tributaries entire length.
- xi. Saddle River and tributaries from State line downstream to Bergen County Rt. 2 bridge.
- xii. West Brook (West Milford) and tributaries entire length.
- xiii. Whippany River (Brookside) and tributaries from source downstream to Whitehead Rd. Bridge.

\* Potable Water Supply

- xiv. Whippany River (trib.) (Mendham) and tributaries entire length.
- xv. Whippany River (trib.) (Brookside) and tributaries entire length.
- xvi. Mill Brook (Randolph) and tributaries upstream of Route 10.
- xvii. Pequannock River (Vernon) and tributaries from source downstream to confluence with Pacack Brook, except those segments designated FW-1.
- 3. Class FW-2 Trout Maintenance:
  - i. Hibernia Brook (Hibernia) and tributaries entire length.
  - ii. Indian Grove Brook (Somersetin) entire length.
  - iii. Green Pond (Rockaway Twp.)
  - iv. Jersey City Reservoir (Boonton)
  - v. Macopin Brook (Newfoundland) downstream from Echo Lake Dam.
  - vi. Passaic River and tributaries from source downstream to Route 202.
  - vii. Pequannock River and tributaries including Charlottesburg and Oak Ridge Reservoirs, except those classified as FW-1, FW-2 Trout Production, and FW-2 Nontrout from confluence with Pacack Brook downstream to Hamburg Turnpike (Bench Mark 257) in Bloomingdale.
  - viii. Post Brook (Bloomingdale) and tributaries from source downstream to Wanaque Reservoir.
  - ix. Primrose Brook (Harding) and tributaries from source downstream to Rt. 202 bridge.
  - x. Ringwood Brook (Ringwood) entire length.
  - xi. Russia Brook (Milton) and tributaries from Lake Hartung dam downstream to but not including Lake Swannanoa.
  - xii. Saddle River and tributaries from Bergen County Rt. 2 bridge downstream to Allendale Road bridge.
  - xiii. Sheppard Lake and tributaries entire length.

\* Potable Water Supply

- xiv. Wanaque River and tributaries from Greenwood Lake to Wanaque Reservoir, including Greenwood Lake, Wanaque Reservoir, and their tributaries except those segments classified as FW-1, FW-2 Trout Production, and FW-2 Nontrout.\*
- xv. Clinton Reservoir (West Milford) and tributaries, except those waters classified FW-1 and FW-2 Nontrout.
- xvi. Canistear Reservoir and tributaries, except those waters classified FW-1 and FW-2 Nontrout.
- xvii. Split Rock Reservoir (Rockaway Twp.)
  - 4. Class FW-2 Nontrout:
    - i. Main stem and all tributaries to the Passaic River above Passaic Valley Water Commission intake at Little Falls, except those waters designated as FW-1, FW-2 Trout Production, and FW-2 Trout Maintenance.\*
    - ii. Saddle River and tributaries and Ho-Ho-Kus Brook and tributaries upstream from the confluence of Saddle River and Ho-Ho-Kus Brook in the vicinity of the intake of the Hackensack Water Company, except those designated FW-2 Trout Production and FW-2 Trout Maintenance.\*
    - iii. Saddle River from its confluence with Ho-Ho-Kus Brook downstream to head of saline influence, except those waters designated as FW-2 Trout Production and FW-2 Trout Maintenance
    - iv. Haledon Reservoir and tributaries thereto.\*
    - v. Main stem and tributaries of Passaic River between Dundee Lake Dam and Passaic Valley Water Commission intake at the Little Falls.
    - vi. Fresh nontidal and fresh tidal tributaries to the Passaic River, below Dundee Lake Dam.
    - vii. Fresh nontidal and fresh tidal portions of Bound Creek and its tributaries.
  - 5. Class TW-1:
    - None
  - 6. Class TW-2:
    - i. Passaic River upstream from confluence with Second River to head of tide at Dundee Dam.

\* Potable Water Supply

- ii. Tidal portion of Saddle River and all other tidal portions of tributaries to the Passaic River.
- iii. Tidal portion of Bound Creek.
- iv. All other tidal waters not mentioned herein.
- 7. Class TW-3:
  - i. Newark Bay north of an east-west line connecting Elizabethport (Elizabeth) with Bergen Point (Bayonne) up to the mouth of the Passaic River and up to the mouth of the Hackensack River.
  - ii. Main stem of Passaic River from its mouth to point of entry of the Second River.

(g) Raritan River Basin Including Raritan Bay - Sandy Hook Bay Classification

1. Class FW-1:

None

2. Class FW-2 Trout Production:

- i. Black Brook (Polktown) and tributaries entire length.
- ii. Burnett Brook (Ralston) and tributaries entire length.
- iii. Capoolong Creek (Sydney) and tributaries entire length.
- iv. Cold Brook (Oldwick) and tributaries entire length.
- v. Dawson's Brook (Ironia) and tributaries entire length.
- vi. Electric Brook (Schooley's Mt.) and tributaries from source downstream to, but not including, Camp Washington Pond.
- vii. Flander's Brook (Flanders) and tributaries entire length.
- viii. Frog Hollow Brook (Califon) and tributaries entire length.
- ix. Gladstone Brook (St. Bernards School) and tributaries entire length.
- x. Hacklebarney Brook (Hacklebarney) and tributaries entire length.
- xi. Hickory Run (Califon) and tributaries entire length.
- xii. Hollow Book (Pottersville) and tributaries entire length.

- xiii. India Brook and tributaries entire length.
- xiv. Lamington (Black) River and tributaries from confluence with Rhinehart Brook downstream to Camp Brady Bridge, Bedminster.
- xv. Ledgewood Brook (Ledgewood) and tributaries entire length.
- xvi. Little Brook (Califon) and tributaries entire length.
- xvii. Lomerson Brook (Pottersville) and tributaries entire length.
- xviii. Mulhockaway Creek (Pattenburg) and tributaries entire length.
- xix. Norton Brook (Norton) and tributaries entire length.
- xx. Peapack Brook (Gladstone) and tributaries entire length.
- xxi. Rockaway Creek (N. Br.) and tributaries from source downstream to Rt. 523 bridge.
- xxii. Stony Brook (Washington) and tributaries entire length.
- xxiii. Sun Valley Brook (Mt. Olive) and tributaries entire length.
- xxiv. Trout Brook (Hacklebarney) and tributaries entire length.
- xxv. Turkey Brook (Mt. Olive) and tributaries entire length.
- xxvi. Willoughby Brook (Buffalo Hollow) and tributaries entire length.
- xxvii. Spruce Run Creek (Glen Gardner) and tributaries downstream to but not including Spruce Run Reservoir.
- xxviii. Raritan River (S. Br.) and tributaries between the confluence with Turkey Brook and the confluence with Electric Brook, except those designated FW-2 Nontrout.
- xxix. Raritan River (North Branch) and tributaries from source downstream to, but not including Ravine Lake, except those designated FW-2 Trout Maintenance.
- xxx. Oakdale Creek (Chester) and tributaries entire length.
- xxxi. Rhinehart Brook (Hacklebarney) and tributaries entire length.
- 3. Class FW-2 Trout Maintenance:
  - i. Beaver Brook (Cokesbury) and tributaries entire length.
  - ii. Black (Lamington) River and tributaries from Rt. 206 to confluence with Rhinehart Brook; Camp Brady Bridge to Rt. 523, except those designated FW-2 Trout Production.

- iii. Green Brook (Watchung) and tributaries from source downstream to Rt. 22 bridge, except those designated FW-2 Nontrout.
- iv. McVickers Brook (Mendham) and tributaries entire length.
- v. Middle Brook (E. Br.) (Springdale) and tributaries entire length.
- vi. Prescott Brook (Stanton Station) and tributaries entire length.\*
- vii. Raritan River (N. Br.) and tributaries from Ravine Lake Dam downstream to Rt. 512 bridge.\*
- viii. Raritan River (S. Br.) and tributaries from confluence with Electric Brook downstream to downstream end of Packers Island, except those designated FW-2 Trout Production and FW-2 Nontrout.\*
- ix. Rockaway Creek (N. Br.) (Whitehouse) and tributaries from Rt. 523 bridge downstream to confluence with Rockaway Creek (S Br.)\*
- x. Rockaway Creek (S. Br.) (Whitehouse) and tributaries entire length.\*
- xi. Round Valley Reservoir.\*
- xii. Spruce Run and tributaries from and including Spruce Run Reservoir downstream to the Raritan River (S. Br.) except those designated FW-2 Trout Production.\*

(Navesink Watershed)

- xiii. Hockhocks Creek and tributaries entire length.
- xiv. Pine Brook (Cooks Mills) and tributaries entire length.
- xv. Ramanassen (Hop) Brook (Holmdel) and tributaries, entire length.
- 4. Class FW-2 Nontrout:
  - i. The Delaware and Raritan Canal to the Deep Lock at New Brunswick.\*
  - ii. The Raritan River and Millstone River and all tributaries above the intakes of the Elizabethtown Water Company at their confluence except those designated FW-2 Trout Production and FW-2 Trout Maintenance.\*

\* Potable Water Supply

- iii. The Middle Brook and tributaries above the intake of the Bound Brook Water Company downstream from the confluence of the West Branch Middle Brook and East Branch Middle Brook, except those designated FW-2 Trout Maintenance.\*
  - iv. The South River and tributaries above the intake of the Sayreville Water Department.\*
  - v. Lawrence Brook and tributaries above the intake of the New Brunswick Water Department at Weston's Mill Dam.\*
  - vi. The Swimming River and tributaries above the intake of the Monmouth Consolidated Water Company at the Swimming River Reservoir Dam, except those classified as FW-2 Trout Maintenance.\*
  - vii. The main stem of the Raritan River and all tributaries below the intake of the Elizabethtown Water Company to the Fieldsville Dam, except those designated FW-2 Trout Maintenance.
  - viii. All other fresh nontidal and fresh tidal portions of tributaries to the Raritan River below Fieldsville Dam and to Raritan Bay - Sandy Hook Bay.
  - ix. Tennent Brook and tributaries above the Tennent Pond Dam.\*
5. Class TW-1:
- i. The mainstem of the Raritan River and tidal tributaries from Fieldsville Dam to the mouth of the Raritan River, except those portions classified as FW-2 Nontrout.
  - ii. Raritan Bay - Sandy Hook Bay and all tidal tributaries exclusive of the Arthur Kill.

6. Class TW-2:

None

7. Class TW-3:

None

(h) Wallkill River Basin Classification

1. Class FW-1:

(Lake Lookout Brook Watershed)

\* Potable Water Supply

- i. Newark City Holdings, and Wawayanda Tract

Lake Lookout Brook and tributaries from its headwaters in the Newark City Holdings downstream through the State-owned Wawayanda Tract to its confluence with the outlet stream from Lake Wawayanda.\*

(Laurel Pond Watershed)
- ii. Wawayanda Tract

Laurel Pond, including its outlet stream and tributaries down to the outlet stream from Lake Wawayanda.

(Sand Hills Brook Watershed)
- iii. Hamburg Mountain Tract

The upstream portion of Sand Hills Brook situated wholly within the Hamburg Mountain Tract boundaries.

(Black Creek Watershed)
- iv. Hamburg Mountain Tract

All those portions of three tributaries to Black Creek originating in the Hamburg Mountain Tract from their origin downstream to the tract boundaries.

(Franklin Pond Creek Watershed)
- v. Hamburg Mountain Tract

The first tributary to Franklin Pond Creek just south of Hamburg Mountain flowing toward the Wallkill River and situated wholly within the Hamburg Mountain Tract.

(Hamburg Creek Watershed)
- vi. Hamburg Mountain Tract

The third tributary just southwest of Hamburg Mountain flowing toward the Wallkill River and situated wholly within the Hamburg Mountain Tract.

(Lake Rutherford Watershed)
- vii. Sussex Borough Water Supply

Lake Rutherford northwest of Colesville.\*

(Clove River Watershed)

\* Potable Water Supply

- viii. High Point State Park Those portions of the two northernmost tributaries to Clove River situated wholly within the High Point State Park boundaries immediately east of Steenykill Lake.

(Rutgers Creek Watershed)

- ix. High Point State Park The Cedar Swamp headwaters of the tributary to Rutgers Creek situated wholly within the High Point State Park boundaries just south of the New Jersey-New York line.

2. Class FW-2 Trout Production:

Black Creek (trib.) (McAfee) and tributaries entire length.

3. Class FW-2 Trout Maintenance:

- i. Black Creek (McAfee) and tributaries from source downstream to Route 94 bridge, except those segments designated FW-1.
- ii. Glenwood Brook (Glenwood) and tributaries from outlet of Glenwood Lake downstream to State line.
- iii. Lounsberry Hollow Brook (Vernon Valley) and tributaries from outlet of Glenwood Lake downstream to Pochuck Creek.
- iv. Wawayanda Lake.
- v. Clove River (Wantage) and tributaries from source downstream to, but not including, Clove Acres Lake, except those designated FW-1.
- vi. Clove Creek (Colesville) and tributaries entire length.
- vii. Franklin Pond Creek (Franklin) and tributaries entire length, except those segments designated FW-1.
- viii. Hamburg Creek (Hamburg Mts.) and tributaries upstream from Route 517 bridge at Rudeville.
- ix. Papakating Creek (Frankford) and tributaries from source downstream to Route 629 bridge.
- x. Sparta Glen Brook (Sparta) and tributaries entire length.
- xi. Wallkill River and tributaries from confluence with Sprata Glen Brook downstream to Rt. 23 bridge, except those segments designated FW-2 Nontrout.
- xii. Willow (Quarryville) Brook (Wantage) and tributaries entire length.

\* Potable Water Supply

4. Class FW-2 Nontrout:
  - i. Wallkill River and tributaries downstream from Rt. 23 bridge to State line, except those segments designated FW-2 Trout Maintenance.
  - ii. Branch of Pochuck Creek, supply of the Highland Lakes Improvement Company.\*
  - iii. All other segments of the Wallkill River Basin except those designated as FW-1, FW-2 Trout Production and FW-2 Trout Maintenance.

Note: See, "Classification of New Jersey Waters as Related to Their Suitability for Trout" Division of Fish, Game and Wildlife, for a more detailed listing of Trout Waters subclassifications and those segments "Pending Reclassification".

\* Potable Water Supply

SWQS:BG:ss/1:H

SUBCHAPTER 5. TREATMENT OF WASTEWATER DISCHARGED INTO SURFACE  
WATERS OF THE STATE

7:9-5.1 Scope of Rules

- (a) Unless otherwise provided by rule or statute, the following shall constitute the rules of the Department of Environmental Protection concerning matters of policy with respect to the protection and enhancement of surface waters of the State, disinfection, wasteload allocations, bioassay procedures, minimum treatment requirements, procedures for establishing water quality based effluent limitations, modification of water quality based effluent limitations, and procedures for reclassifying specific segments for less restrictive uses pursuant to the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq. and the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq.
- (b) This subchapter shall apply to the establishment of effluent limitations and other requirements applicable to discharge into the surface waters of the State.

7:9-5.2 Construction

These rules shall be liberally construed to permit the department and its various divisions to discharge its statutory functions.

7:9-5.3 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings unless the context clearly indicates otherwise.

"Acceptable arrangement" means any combination of alternative configurations and levels of treatment under which water quality standards will be maintained.

"Alternative configuration" means the alternative juxtaposition of the number of point-source dischargers and discharger locations within a segment of study area.

"Alternative arrangement" means any combination of alternative configurations and levels of treatment.

"Ambient water quality" means the existing biological, chemical, and physical characteristics of a water body segment.

"Application factor" means a number applied to an acute toxicity test to estimate a concentration of a substance which protects all life stages of the test organism in

waters of varying quality, as well as to protect associated organisms within the aquatic environment that have not been tested and that may be more sensitive to the test constituent. In the instance where maximum acceptable toxicant concentration (MATC) has been independently determined, an application factor (AF) will equal the quotient of the MATC divided by the incipient LC50, when the incipient LC50 is known. When the incipient LC50 is not known, the AF will equal the quotient of the 96 hour LC50. (AF=MATC/96 hr. LC50).

"Bioassay" means a determination of the concentration of dose of a given material necessary to affect a test organism under stated conditions.

"BOD" means biochemical oxygen demand.

"Calculable Changes" means changes to representative (as determined by the Department) water quality data which may be demonstrated by any acceptable mathematical predictive tool.

"CBOD" means carbonaceous biochemical oxygen demand.

"COD" means chemical oxygen demand.

"Commissioner" means the Commissioner of Environmental Protection.

"Conservative Substance" means a substance that is relatively resistant to degradation.

"Department" means the New Jersey Department of Environmental Protection.

"Design conditions" means those hydrological and flow characteristics of a water body which are used as a basis for determining water quality standards.

"Discharge" means the releasing, spilling, leaking, pumping, pouring, emitting, emptying, or dumping of a pollutant into the waters of the State or onto land or into wells from which it might flow or drain into said waters.

"Discharger" means any person, corporation, municipality, sewerage authority or other legal entity, who causes, suffers, or allows any discharge.

"Disinfection" means the removal, destruction or inactivation of pathogenic and indicator organisms in wastewaters.

"High Quality Waters" means those surface waters having biological chemical, or physical characteristics which are better than applicable water quality standards and the aquatic biological community or other uses of which are sensitive to changes in water quality.

"Important Species" means species which are commercially or recreationally valuable (e.g., within the top ten species landed--by dollar value); threatened or endangered; critical to the organization and maintenance of the ecological system; or necessary in the food web for the well-being of species identified in this definition.

"LC50" means the concentration of a toxicant which is lethal to fifty percent of the organisms of a particular species under a given set of conditions in a specified length of time (i.e., 24, 48, 96 hours).

"Levels of treatment" means the degree of waste removal and concomitant residual wastewater effluent to be attained by any discharger.

"Measurable Changes" means changes determined by any biological, chemical, or physical analytical method conducted in accordance with USEPA approved methods as identified in 40 C.F.R. 136 or other analytical methods (e.g., ecological indices) approved by the Department.

"NBOD" means nitrogenous biochemical oxygen demand.

"Nonconservative Substance" means a substance that degrades relatively quickly.

"Nondegradation Waters" means those surface waters of the State whose water quality and water uses shall be preserved because of their outstanding State or National resource value. This definition shall not apply to those surface waters that have special water quality standards (e.g., FW-Central Pine Barrens and FW-Lower Mullica and Wading Rivers-Central Pine Barrens).

"Nonpersistent substance" means a substance that degrades relatively quickly, having a one-half-life of less than 96 hours.

"Outstanding National Resource Waters" means those surface waters of the State which, because of their exceptional recreational or ecological significance, shall be preserved from degradation. These waters include those segments currently classified as FW-1 in section 10 of subchapter 4 of this chapter and selected high quality waters such as tributaries upstream of FW-1 waters which currently receive no discharge.

"Persistent substance" means a substance that is relatively resistant to degradation, having a one-half-life of 96 hours or more.

"Point source" means any discernable, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

"Pollutant" means any dredged spoil, solid waste, incinerator residue, sewage, garbage, refuse, oil, grease, sewage sludge, munitions, chemical wastes, biological materials, radioactive substance, thermal waste, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, or agricultural waste or other residue discharged or entering into the waters of the State.

"Reserve" means the hydrological, chemical or biological ability of a water body to accept additional waste loads beyond those allocated.

"Segment" means a portion of a study area, the surface waters of which have common hydrological characteristics (or flow regulation patterns), common natural physical, chemical, and biological processes and which have common reactions to external stresses, for example, the discharge of pollutants.

"Study area" means the geographical area which includes all water bodies for which wasteload allocations are to be assigned as a unit.

"TOC" means total organic carbon.

"Toxic Substance" means those substances, or combination of substances, which upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly through food chains, will, on the basis of information available to the department, cause death, disease, behavior abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformation, in such organisms or their offspring.

"USEPA" means the United States Environmental Protection Agency.

"Waste load" means the amount of chemical, physical or biological matter contained within a waste discharge.

"Wasteload allocation" means the assignment of maximum waste loads to point source discharges so as to conform to water quality standards.

"Water quality management planning" (water quality management plan) means the activities defined in, and referred to, in sections 208 and 303 of the Federal Clean Water Act and the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq.

"Water quality model" means any mathematical or analytical tool which is recognized by the scientific community and is subject to change by field verification and which is used to predict the hydrological, flow, chemical or biological characteristics of a water body.

"Water quality standards" means the designated uses and the physical, chemical, biological and esthetic characteristics of a water body as described by ambient water quality criteria, set forth in subchapter 4 of this chapter.

#### 7:9-5.4 Statements of Policy

(a) The following are general statements of policy:

1. It shall be unlawful for any person to discharge any pollutant into waters of the State, except in conformity with a valid permit issued by the commissioner or by the Administrator of the United States Environmental Protection Agency, and that it shall be unlawful for any person to build, install, modify or operate any facility for the collection, treatment or discharge of any pollutant, except after approval by the department pursuant to regulations adopted by the commissioner.
2. The protection and enhancement of the quality and function of the waters of this State into which effluents are discharged is a principal objective of the Department of Environmental Protection when considering the approval of permits to discharge or the designs for proposed facilities for the collection, treatment or discharge of pollutants.
3. The minimum level of treatment required for any wastewater must be such that discharges shall meet technically based effluent limits as established under this subchapter or Sections 301, 306 and 307 of the Federal Clean Water Act, whichever is more stringent, and shall not cause the surface water quality criteria contained in subchapter 4 of this chapter to be contravened. Furthermore no discharger shall have the privilege of utilizing the entire theoretical capacity of a surface water to receive waste discharges.
4. Whenever the department finds that discharges of pollutants from a point source or group of point sources with the application of technically based effluent limitations at least as stringent as those required under sections 301, 306 and 307 of the Federal Clean Water Act or this subchapter

subsequent revisions) adopted by the Delaware River Basin Commission as part of its Comprehensive Plan, whichever are more stringent.

- ii. The minimum level of treatment for wastewater treatment facilities that discharge treated wastewaters to waters of the Interstate Sanitation District under the jurisdiction of the Interstate Sanitation Commission in the New Jersey - New York metropolitan area, shall be as established at subsections (y) through (dd) and (ii) through (ll) of section 11 of this subchapter, or in accordance with the current Interstate Sanitation Commission's Water Quality Regulations (and subsequent revisions), whichever are more stringent.

(b) The following are statements of policy concerning disinfection of wastewater:

1. The department recognizes that chlorinated organic compounds resulting from the chlorination of wastewater effluents may be deleterious to human health and the aquatic environment.
2. To reduce the exposure of humans to possible carcinogens and aquatic life to toxicants, the department encourages the efficient use of chlorine if used as a disinfectant. However, in no event shall the reduced use of chlorine as a disinfectant, cause an increase in the risk of human's contracting pathogenic diseases.
3. The department encourages the use of alternatives to chlorination providing that the following can be demonstrated:
  - i. The alternative method is effective in the removal of viable pathogens and indicators of pathogenic organisms; and
  - ii. The alternative method is safe and has a less deleterious effect on the health of humans who may ingest or come into contact with waters receiving these discharges than chlorination; and
  - iii. The alternative method shall have a less deleterious effect on the aquatic environment, including its biota, than chlorination and shall not result in a contravention of prevailing surface water quality standards; and

- iv. The alternative method will not produce levels of residual disinfectants and disinfection by-products that are conservative.
- 4. Unless it can be demonstrated that a disinfectant and its by-products are nonconservative, then the disinfectant and its by-products shall be considered to be conservative for purposes of determining water quality based effluent limitations.
- 5. The department shall require continuous year-round disinfection of all wastewaters which contain pathogenic organisms discharged into surface waters of the State, except in regions designated for seasonal disinfection, such that compliance with prevailing water quality standards is achieved.
- 6. The department will require seasonal disinfection from April 15 to October 15 in designated regions for the protection of the health and general welfare of the public.
  - i. Areas for seasonal disinfection are restricted to the State's surface waters where the waters can not be restored or used for primary contact recreation, shellfishing, or potable water supply in the foreseeable future and where contiguous waters with these designated uses are not degraded by seasonal disinfection.
  - ii. The designated areas eligible for seasonal disinfection are as follows:
    - (1) Hudson River between the George Washington Bridge and the confluence with Upper New York Bay;
    - (2) Upper New York Bay;
    - (3) Kill Van Kull, entire length;
    - (4) Arthur Kill, entire length;
    - (5) Newark Bay.

(c) The following are statements of policy concerning bioassay procedures:

- 1. 96 hour modified static or 96 hour flow-through bioassay will be utilized as definitive bioassays in determining the impact of a wastewater discharge which is presumed to be toxic to aquatic life.

2. The department shall establish from time to time a list of specific organisms to be used for conducting bioassays. Such organisms will be representative of the biota for the class of waters under consideration. This list presents organisms considered by the department as acceptable bioassay organisms for the waters in question. The department may allow or require the use of organisms not on the list when such organisms occur in the waters and are more sensitive to the specific wastewater discharge.
3. After notice and the opportunity for a public hearing, the department, utilizing scientific judgment, may establish an application factor (in terms of a factor to be applied to the 96 hour LC50 value) which is more restrictive than those set forth in subsections 6(e), 7(d) and 8(c) of subchapter 4 of this chapter. Such an application factor may be necessary to ensure adequate protection of organisms and life stages not tested, but which may be more sensitive to the test constituent(s).

#### 7:9-5.5 Objective of Wasteload Allocation

- (a) The allocation of waste loads to point source dischargers forms the basis for water quality management planning, as required by sections 303(e) and 208 of the Federal Clean Water Act, and section 7 of the New Jersey Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq.
- (b) The objective of wasteload allocations is to apportion the after-treatment, residual wastewater discharges in such a way that the antidegradation policy and any other provisions of the water quality standards (subchapter 4 of this chapter) are maintained under design conditions.

#### 7:9-5.6 Wasteload Allocation Procedure

- (a) The general procedure which will be followed by the department in allocating waste loads to point source dischargers in a study area shall be as follows:
  1. Delineate the study area;
  2. Assemble all necessary water quality and hydrologic data for the water bodies in the study area for which wasteload allocations are to be done;

13. Select the best arrangement for the study area and thus for each segment contained therein, in conformity with this subchapter and other subchapters of this chapter;
  14. Allocate waste loads to the point source dischargers within the study area, in accordance with paragraph 12, of this subsection.
  15. Where the department allocates waste loads to point source dischargers as provided in paragraphs 1 through 13 of this subsection, the State will provide each affected point source discharger in the study area with notice and the opportunity to be heard and comment upon such wasteload allocations. The selected arrangement and wasteload allocation shall be formally adopted under the Water Quality Management Planning procedures, as a revision to the existing areawide Water Quality Management Plan, and will be binding upon all affected dischargers. Procedures for modifying surface water quality based effluent limitations set forth in section 12 of this subchapter are not applicable in this instance. However, the criteria for modification will be considered in assigning allocations and in review of the comments upon such allocations before final adoption.
- (b) The department may also allocate a waste load to a single point source discharger with notice and the opportunity to request a modification of the water quality based effluent limitations in accordance with section 12 of this subchapter. The general procedure which will be followed by the department in allocating a waste load to an individual point source discharge shall be as follows:
1. For High Quality Waters - Category One, as defined in section 5 of subchapter 4 of this chapter, draft water quality based effluent limitations will be assigned to a point source discharger so that the ambient biological, chemical, and physical characteristics of the segment will be protected from any measurable or calculable changes. The parameters to be considered are those contained in the water quality standards as set forth in subchapter 4 of this chapter and any other parameters that the department determines may have a detrimental effect on the existing instream uses.
  2. For High Quality Waters - Category Two, as defined in section 5 of subchapter 4 of this chapter, draft water quality based effluent limitations will be assigned to a point source discharger so as to allow for some degradation of those ambient water quality characteristics which are not critical

mathematical modeling, simple mass balances combined with water quality surveys, and bioassays may be used to determine draft effluent limitation.

- ii. In developing water quality based effluent limitations to meet a dissolved oxygen criterion, limitations for CBOD and NBOD will be determined using a calibrated and verified water quality model developed for a particular stream, a simplified modeling approach as outlined in "Water Quality Assessment" (EPA-600/9-77-023), or other scientifically acceptable approaches.
- iii. For other parameters for which numerical criteria have been adopted, a simple mass balance or other scientifically acceptable procedures will be utilized to develop water quality based effluent limitations using the applicable water quality criterion as set forth in subchapter 4 of this chapter as the base. The following is an example of a formula which may be applied for developing wasteload allocations:

$$V_1 C_1 + V_2 C_2 = (V_1 + V_2) [P(C_1 - C_s) + C_s]$$

Where:

- $V_1$  = Upstream Low Flow
- $V_2$  = Effluent Design Flow
- $C_1$  = Upstream Concentration
- $C_2$  = Effluent Concentration
- Limitation (unknown)
- $C_s$  = Water Quality Criterion
- $P^s$  = Percent Reserve (where applicable)

- iv. In order to determine toxic substance effluent limitations, the applicant for such limitation shall submit to the department the results of a 24 hour screening bioassay and a laboratory chemistry analysis on the proposed effluent discharge used in the bioassay procedure. The methodology to be utilized in the conduct of the tests shall be approved by the department. The department will review each report and supporting data.
- v. If the effluent discharge is determined to be toxic, based on the initial static bioassay test results, the department shall, on a case-by-case basis, require definitive 96 hour bioassays (e.g. modified static or flow-through) to be performed as part of the application procedure, or as a pollution control permit condition, to provide further data for evaluation.

Where:

$V_1$  = Upstream Low Flow  
 $V_2$  = Effluent Flow Limitation  
(unknown)  
F = Application Factor\*  
D = Dilution (96 hour LC50)

\*1/20 where nonpersistent toxic substances are suspected.

\*1/100 where persistent toxic substances are suspected.

- vii. In those instances in which a bioassay is impracticable, the department may use as a reference, Quality Criteria for Water (United States Environmental Protection Agency, 1976) Water Quality Criteria 1972 (National Academy of Sciences, National Academy of Engineering, March 1973, EPA-R-3-73-033) other water quality criteria information published pursuant to section 304(a) of the Federal Clean Water Act, other reliable scientific information, or the results of other bioassays to determine effluent limitations.
6. The following methodology will be utilized by the department in the development of effluent limitations for existing wastewater treatment facilities which are currently in operation:
- i. For discharge to Category Three waters, the methodologies set forth in paragraph 5 of this subsection will be applied to develop effluent limitations which can reasonably be expected to attain or maintain water quality standards;
  - ii. For discharges to Category One or Two waters, effluent limitations will be based on those limits developed by the department for the present design capacity when the permit to operate the facility was approved, or technically based effluent limitations required under sections 301, 306 or 307 of the Federal Clean Water Act, whichever is more stringent. In addition, the department may require more stringent limitations for specific pollutants which have been shown to be harmful to the designated uses of the waters, or which pose a threat to human health. An example of the latter would be the requirement of more stringent limitation of the discharge of chlorine residual.

7:9-5.7 Use of Indicators of Pollution Levels

In section 11 of this subchapter, in those instances in which, in the judgment of the department, it would be more appropriate to use TOC or COD as an indicator of pollution levels, the department will substitute those indicators or a combination of them in place of, or in combination with, BOD in establishing treatment requirements.

7:9-5.8 Dilute Industrial Process Wastewater

For dilute industrial process wastewater, the percent BOD (or other indicator) reduction as set forth in section 11 of this subchapter may be modified, upon request, provided it has been demonstrated to the satisfaction of the department that the highest degree of waste treatment determined to be practicable will be applied.

7:9-5.9 Effluent Limitations Related to Public Potable Water Supply Use

In those instances in which effluent limitations are established, pursuant to this subchapter, at a level calculated to protect the public potable water supply use of the receiving waters, the department may, at the request of the discharger, establish less stringent limitations which, in the opinion of the department, will protect all other designated uses of the receiving waters where it has been demonstrated by reference to the Statewide Water Supply Plan, as modified and adopted by the department, that the receiving waters are not now either directly or indirectly a source for public potable water supply and are not projected to be such a source for at least a 20 year period. In considering the establishment of less stringent limitations, the department shall take into account the conservative nature of the substances being discharged. This demonstration shall be made for each modification or renewal of the pollution control permit in which the effluent limitations appear.

7:9-5.10 Effluent Standard for Toxic Discharges

The effluent standard for toxic discharges is that, at a minimum, no effluent shall be more toxic than a 96 hour LC50 of 50 percent (by volume).

7:9-5.11 Minimum Treatment Requirements

- (a) Domestic wastes discharged into waters of the Atlantic Coastal Plain classified as FW-2 and TW-1 shall be treated as follows:

maintain water quality specified in subchapter 4 of this chapter.

- (e) It is recognized, especially in connection with some industrial wastes, that the pollution load imposed upon the waters of the Plain cannot be evaluated fully exclusively by the biochemical oxygen demand test; therefore, each industrial waste problem shall be considered individually and treatment shall be required as needed to effect compliance with the Water Quality Criteria established for the various classifications of waters in the Plain.
- (f) Treatment standards set forth in subsections (a) through (e) of this section are the minimum acceptable for the Atlantic Coastal Plain. Treatment more intensive than those set forth in subsections (a) through (e) of this section shall be provided whenever it is determined by the department that such treatment is necessary.
- (g) Domestic wastes discharged into waters of the Delaware River Basin classified as FW-2, TW-1, or TW-2 shall be treated as follows:

Henceforth, domestic wastes, separately or in combination with industrial wastes, prior to discharge into waters of the Delaware River Basin classified as FW-2, TW-1 and TW-2, shall be treated to a degree providing, as a minimum, 90 percent of reduction of biochemical oxygen demand at all times including any four-hour period of a day when the strength of the wastes to be treated might be expected to exceed average conditions; it is an objective of this subsection that the biochemical oxygen demand of effluents discharged shall not exceed 25 parts per million.

- (h) Industrial wastes discharged into waters of the Delaware River Basin classified as FW-2, TW-1, or TW-2 shall be treated as follows:

Henceforth, industrial wastes prior to discharge into waters of the Delaware River Basin, classified as FW-2, TW-1 and TW-2, shall be treated to a degree providing, as a minimum, 90 percent of reduction of biochemical oxygen demand at all times and such further reduction of biochemical oxygen demand as may be necessary to maintain water quality, after reasonable effluent dispersion, as specified in subchapter 4 of this chapter; it is the objective of this subsection that the biochemical oxygen demand of effluents discharged shall not exceed 25 parts per million.

- (i) Domestic wastes discharged into waters of the main stem Delaware River shall be treated as follows:

Henceforth, domestic wastes, separately or in combination with industrial wastes, prior to discharge into the waters of the "main stem" of the Delaware River shall be treated to a degree providing for conformity with "Water Quality Standards for the Delaware River Basin" as adopted by the Delaware River Basin Commission on April 26, 1967 by its Resolution No. 67-7 and subsequent revisions; it is the objective of this subsection that the biochemical oxygen demand of effluents discharged shall conform to all regulations of the Delaware River Basin Commission.

- (j) Industrial wastes discharged into waters of the main stem of the Delaware River shall be treated as follows:

Henceforth, industrial wastes prior to discharge into waters of the "main stem" of the Delaware River Basin shall be treated to a degree providing for conformity with "Water Quality Standards for the Delaware River Basin" as adopted by the Delaware River Basin Commission on April 26, 1967 by its Resolution No. 67-7 and subsequent revisions; it is the objective of this subsection that the biochemical oxygen demand of effluents discharged shall conform to all regulations of the Delaware River Basin Commission.

- (k) It is recognized, especially in connection with some industrial wastes, that the pollution load imposed upon the waters of the Basin cannot be evaluated fully exclusively by the biochemical oxygen demand test; therefore, each industrial waste problem shall be considered individually and treatment shall be required as needed to effect compliance with the Water Quality Standards established for the various classifications of waters in the Basin.

- (l) Treatment standards set forth in subsections (g) through (k) of this section are the minimum acceptable for the Delaware River Basin. Treatment more intensive than that set forth in subsections (g) through (k) of this section shall be provided whenever it is determined by the department that such treatment is necessary.

- (m) Domestic wastes discharged into waters of the Hackensack River Basin classified as FW-2 or TW-1 shall be treated as follows:

Henceforth, domestic wastes, separately or in combination with industrial wastes, prior to discharge into waters of the Hackensack River Basin classified as FW-2 or

TW-1 shall be treated to a degree providing, as a minimum, 90 percent of reduction of biochemical oxygen demand at all times, including any four-hour period of a day when the strength of the wastes to be treated might be expected to exceed average conditions; it is the objective of this subsection that the biochemical oxygen demand of effluents discharged shall not exceed 25 parts per million.

- (n) Industrial wastes discharged into waters of the Hackensack River Basin classified as FW-2 or TW-1 shall be treated as follows:

Henceforth, industrial wastes, prior to discharge into waters of the Hackensack River Basin, classified as FW-2 or TW-1 shall be treated to a degree providing, as a minimum, 90 percent of reduction of biochemical oxygen demand at all times and such further reduction in biochemical oxygen demand as may be necessary to maintain water quality, after reasonable effluent dispersion, as specified in subchapter 4 of this chapter; it is the objective of this subsection that the biochemical oxygen demand of effluents discharged shall not exceed 25 parts per million.

- (o) Domestic wastes discharged into waters of the Hackensack River Basin classified as TW-2 or TW-3 shall be treated as follows:

Henceforth, domestic wastes, separately or in combination with industrial wastes, prior to discharge into waters of the Hackensack River Basin classified as TW-2 or TW-3 shall be treated to a degree providing, as a minimum, 85 percent of reduction of biochemical oxygen demand at all times, including any four hour period of a day when the strength of the wastes to be treated might be expected to exceed average conditions; it is the objective of this subsection that the biochemical oxygen demand of effluents discharged shall not exceed 40 parts per million.

- (p) Industrial wastes discharged into waters of the Hackensack River Basin classified as TW-2 or TW-3 shall be treated as follows:

Henceforth, industrial wastes, prior to discharge into waters of the Hackensack River Basin, classified as TW-2 or TW-3 shall be treated to a degree providing, as a minimum, 85 percent of reduction of biochemical oxygen demand at all times and such further reduction in biochemical oxygen demand as may be necessary to maintain water quality, after reasonable effluent dispersion, as specified in subchapter 4 of this chapter; it is the

objective of this subsection that the biochemical oxygen demand of effluents discharged shall not exceed 40 parts per million.

- (q) It is recognized, especially in connection with some industrial wastes, that the pollution load imposed upon the waters of the Basin cannot be evaluated fully exclusively by the biochemical oxygen demand test; therefore, each industrial waste problem shall be considered individually and treatment shall be required as needed to effect compliance with the Water Quality Criteria established for the various classifications of waters in the Basin.
- (r) Treatment standards set forth in subsections (m) through (q) of this section are the minimum acceptable for the Hackensack River Basin. Treatment more intensive than that set forth in subsections (m) through (q) of this section shall be provided whenever it is determined by the department in a particular situation that such treatment is necessary.
- (s) Domestic wastes discharged into waters of the Passaic River Basin, including Newark Bay, classified as FW-2 shall be treated as follows:

Henceforth, domestic wastes, separately or in combination with industrial wastes, prior to discharge into waters of the Passaic River Basin classified as FW-2, shall be treated to a degree providing, as a minimum, 90 percent of reduction of biochemical oxygen demand at all times, including any four hour period of a day when the strength of the wastes to be treated might be expected to exceed average conditions; it is the objective of this subsection that the biochemical oxygen demand of effluents discharged shall not exceed 25 parts per million.

- (t) Industrial wastes discharged into waters of the Passaic River, including Newark Bay, classified as FW-2 shall be treated as follows:

Henceforth, industrial wastes, prior to discharge into waters of the Passaic River Basin, classified as FW-2 shall be treated to a degree providing, as a minimum, 90 percent of reduction of biochemical oxygen demand at all times and such further reduction in biochemical oxygen demand as may be necessary to maintain water quality, after reasonable dispersion, as specified in subchapter 4 of this chapter; it is the objective of this subsection that the biochemical oxygen demand of effluents discharged shall not exceed 25 parts per million.

- (u) Domestic wastes discharged into waters of the Passaic River Basin, including Newark Bay, classified as TW-2 or TW-3 shall be treated as follows:

Henceforth, domestic wastes, separately or in combination with industrial wastes, prior to discharge into waters of the Passaic River Basin classified as TW-2 or TW-3 shall be treated to a degree providing, as a minimum, 85 percent of reduction of biochemical oxygen demand at all times, including any four hour period of a day when the strength of the wastes to be treated might be expected to exceed average conditions; it is the objective of this subsection that the biochemical oxygen demand of effluents discharged shall not exceed 40 parts per million.

- (v) Industrial wastes discharged into waters of the Passaic River Basin, including Newark Bay, classified as TW-2 or TW-3 shall be treated as follows:

Henceforth, industrial wastes, prior to discharge into waters of the Passaic River Basin, classified as TW-2 or TW-3 shall be treated to a degree providing, as a minimum, 85 percent of reduction of biochemical oxygen demand at all times and such further reduction in biochemical oxygen demand as may be necessary to maintain water quality, after reasonable dispersion, as specified in subchapter 4 of this chapter; it is the objective of this subsection that the biochemical oxygen demand of effluents discharged shall not exceed 40 parts per million.

- (w) It is recognized, especially in connection with some industrial wastes, that the pollution load imposed upon the waters of the Basin cannot be evaluated fully exclusively by the biochemical oxygen demand test; therefore, each industrial waste problem shall be considered individually and treatment shall be required as needed to effect compliance with the Water Quality Criteria established for the various classifications of waters in the Basin.
- (x) Treatment standards set forth in subsections (s) through (w) of this section are the minimum acceptable for the Passaic River Basin. Treatment more intensive than that set forth in subsections (s) through (w) of this section shall be provided whenever it is determined by the department in a particular situation that such treatment is necessary.
- (y) Domestic wastes discharged into waters of the Raritan River Basin, including Raritan Bay and Sandy Hook Bay, classified as FW-2 shall be treated as follows:

Henceforth, domestic wastes, separately or in combination with industrial wastes, prior to discharge into waters of the Raritan River Basin classified as FW-2, shall be treated to a degree providing, as a minimum, 90 percent of reduction of biochemical oxygen demand at all times,

including any four hour period of a day when the strength of the wastes to be treated might be expected to exceed average conditions.

- (z) Industrial wastes discharged into waters of the Raritan River Basin, including Raritan Bay and Sandy Hook Bay, classified as FW-2 shall be treated as follows:

Henceforth, industrial wastes, prior to discharge into waters of the Raritan River Basin, classified as FW-2 shall be treated to a degree providing, as a minimum, 90 percent of reduction of biochemical oxygen demand at all times and such further reduction in biochemical oxygen demand as may be necessary to maintain water quality, after reasonable dispersion, as specified in subchapter 4 of this chapter.

- (aa) Domestic wastes discharged into waters of the Raritan River Basin, including Raritan Bay and Sandy Hook Bay, classified as TW-1 shall be treated as follows:

Henceforth, domestic wastes, separately or in combination with industrial wastes, prior to discharge into waters of the Raritan River Basin classified as TW-1, shall be treated to a degree providing, as a minimum, 85 percent of reduction of biochemical oxygen demand at all times, including any four hour period of a day when the strength of the wastes to be treated might be expected to exceed average conditions.

- (bb) Industrial wastes discharged into waters of the Raritan River Basin, including Raritan Bay and Sandy Hook Bay, classified as TW-1 shall be treated as follows:

Henceforth, industrial wastes, prior to discharge into waters of the Raritan River Basin, classified as TW-1 shall be treated to a degree providing, as a minimum, 85 percent of reduction of biochemical oxygen demand at all times and such further reduction in biochemical oxygen demand as may be necessary to maintain water quality, after reasonable dispersion, as specified in subchapter 4 of this chapter.

- (cc) It is recognized, especially in connection with some industrial wastes, that the pollution load imposed upon the waters of the Basin cannot be evaluated fully exclusively by the biochemical oxygen demand test; therefore, each industrial waste problem shall be considered individually and treatment shall be required as needed to effect compliance with the Water Quality Criteria established for the various classifications of waters in the Basin.

(dd) Treatment standards set forth in subsections (y) through (cc) of this section are the minimum acceptable for the Raritan River Basin. Treatment more intensive than that set forth in subsections (y) through (cc) of this section shall be provided whenever it is determined by the department in a particular situation that such treatment is necessary.

(ee) Domestic wastes discharged into waters of the Wallkill River Basin classified as FW-2 shall be treated as follows:

Henceforth, domestic wastes, separately or in combination with industrial wastes, prior to discharge into waters of the Wallkill River Basin classified as FW-2, shall be treated to a degree providing, as a minimum, 95 percent of reduction of biochemical oxygen demand at all times, including any four hour period of a day when the strength of the wastes to be treated might be expected to exceed average conditions; it is the objective of this subsection that the biochemical oxygen demand of effluents discharged shall not exceed 15 parts per million.

(ff) Industrial wastes discharged into waters of the Wallkill River Basin classified as FW-2 shall be treated as follows:

Henceforth, industrial wastes, prior to discharge into waters of the Wallkill River Basin, classified as FW-2 shall be treated to a degree providing, as a minimum, 95 percent of reduction of biochemical oxygen demand at all times and such further reduction in biochemical oxygen demand as may be necessary to maintain water quality, after reasonable dispersion, as specified in subchapter 4 of this chapter; it is the objective of this subsection that the biochemical oxygen demand of effluents discharged shall not exceed 15 parts per million.

(gg) It is recognized, especially in connection with some industrial wastes, that the pollution load imposed upon the waters of the Wallkill River Basin cannot be evaluated fully exclusively by the biochemical oxygen demand test; therefore, each industrial waste problem shall be considered individually and treatment shall be required as needed to effect compliance with the Water Quality Criteria established for the various classifications of waters in the Wallkill River Basin.

(hh) Treatment standards set forth in subsections (ee) through (gg) of this section are the minimum acceptable for the Wallkill River Basin. Treatment more intensive than that set forth in subsections (ee) through (gg) of

this section shall be provided whenever it is determined by the department in a particular situation that such treatment is necessary.

- (ii) Domestic wastes discharged into waters of the Hudson River, Kill Van Kull, and Arthur Kill Basins classified as FW-2, and TW-2 or TW-3 shall be treated as follows:

Domestic wastes, separately or in combination with industrial wastes, prior to discharge into waters of the Hudson River, Kill Van Kull, and Arthur Kill Basins classified as FW-2, TW-2, or TW-3 shall be treated to a degree providing, as a minimum, 85 percent of reduction of biochemical oxygen demand at all times, including any four hour period of a day when the strength of the wastes to be treated might be expected to exceed average conditions.

- (jj) Industrial wastes discharged into waters of the Hudson River, Kill Van Kull, and Arthur Kill Basins classified as FW-2, TW-2, or TW-3 shall be treated as follows:

Industrial wastes, prior to discharge into waters of the Hudson River, Kill Van Kull and Arthur Kill Basins classified as FW-2, TW-2, or TW-3 shall be treated to a degree providing, as a minimum, 85 percent of reduction of biochemical oxygen demand at all times and such further reduction in biochemical oxygen demand as may be necessary to maintain water quality, after reasonable dispersion, as specified in subchapter 4 of this chapter.

- (kk) It is recognized, especially in connection with some industrial wastes, that the pollution load imposed upon the waters of the Hudson River, Kill Van Kull, and Arthur Kill Basins cannot be evaluated fully exclusively by the biochemical oxygen demand test; therefore, each industrial waste problem shall be considered individually and treatment shall be required as needed to effect compliance with the Water Quality Criteria established for the various classifications of waters in the Hudson River, Kill Van Kull, and Arthur Kill Basins.

- (ll) Treatment standards set forth in subsections (ii) through (kk) of this section are the minimum acceptable for the Hudson River, Kill Van Kull, and Arthur Kill Basins. Treatment more intensive than that specified in subsections (ii) through (kk) of this section shall be provided whenever it is determined by the department in a particular situation that such treatment is necessary.

7:9-5.12 Procedures for Modifying Water Quality Based Effluent Limitations for Individual Dischargers

(a) The criteria for modifying water quality based effluent limitations where existing water quality is currently better than applicable water quality standards are as follows:

1. Whenever the department determines that ambient water quality within a segment is consistently better in quality than established water quality criteria, the department shall establish water quality based effluent limitations for new dischargers or those existing dischargers who propose to modify their discharge, which can reasonably be expected to protect the high quality waters from degradation. However, in those cases in which the department has established water quality based effluent limitations on a case-by-case basis, as provided for in section 6 of this subchapter, interested persons may request a modification of such effluent limitations. Such a request shall be made, in writing, within 30 days of receipt of the draft effluent limitations. If the department does not receive such a request for modification, the draft water quality based effluent limitations shall become final. In no case shall the department establish a water quality based effluent limitation less stringent than that necessary to maintain the ambient high quality water unless:

i. The applicant for such effluent limitation modification demonstrates to the satisfaction of the department, after public notice, including notice to affected municipalities, and a public hearing, that:

(1) There is no reasonable relationship between the economic and social costs of compliance with the Category One based effluent limitations and the benefits to be obtained in maintaining ambient water quality. Economic and social costs shall include any social and economic dislocation in the affected community or communities; and

(2) Some degradation of high quality waters should be allowed because of necessary and justifiable economic or social development; and

- (3) Alternative effluent limitations, at least as stringent as the technically based effluent limitations required by sections 301, 306, and 307 of the Federal Clean Water Act or State law will not interfere with or be injurious to instream water uses; or
    - ii. The department determines, after public notice, including notice to affected municipalities, of the opportunity for a public hearing that:
      - (1) Some degradation of high quality waters Category Two should be allowed because of necessary and justifiable economic or social development; and
      - (2) Alternative effluent limitations, at least as stringent as the technically based effluent limitations required by sections 301, 306, and 307 of the Federal Clean Water Act or State law will not interfere with or be injurious to instream water uses.
  2. In no case shall degradation be allowed in high quality waters which constitute an outstanding national resource such as waters of National and State parks and Wildlife refuges and waters of exceptional recreational or ecological significance.
  3. A surface water quality based effluent limitation modification, as set forth in this subsection, shall be granted for a time period not to exceed that of the pollution control permit in which the limitations appear. On review of the permit, the modified effluent limitations will be renewed if, in the opinion of the department, there has been no adverse effect on water quality and designated uses.
- (b) The criteria for modifying surface water quality based effluent limitations for Category Three waters where existing water quality is equal to or worse than applicable water quality standards are as follows:
1. Whenever the department determines that surface water quality is consistently worse than or equal to applicable water quality standards, and that discharges of pollutants from a point source or group of point sources with the application of technically based effluent limitations at least as stringent as those required under sections 301, 306, and 307 of the Federal Clean Water Act or

State law would interfere with the attainment and maintenance of applicable water quality standards, the department may establish more stringent effluent limitations which can reasonably be expected to attain and maintain water quality standards. However, in those cases in which the department has established water quality based effluent limitations on a case-by-case basis, as provided for in section 6 of this subchapter, the applicant may request a modification of such effluent limitations. Such a request shall be made, in writing, within 30 days of receipt of the draft effluent limitations. If the department does not receive such a request for modification, the draft water quality based effluent limitations shall become final. In no case shall the department establish a water quality based effluent limitation less stringent than that necessary to attain or maintain water quality standards unless the applicant for such effluent limitation modification demonstrates to the satisfaction of the department, after public notice, including notice to affected municipalities, and a public hearing, that:

- i. The existing designated use is not attainable because of natural background; or
  - ii. The existing designated use is not attainable because of irretrievable man-induced conditions; or
  - iii. There is no reasonable relationship between the economic and social costs of achieving the draft effluent limitations and the benefits to be obtained in maintaining or attaining water quality standards. Economic and social costs shall include any social and economic dislocation in the affected community or communities.
2. In no case shall the department establish effluent limitations less stringent than those required by Sections 301, 306, and 307 of the Federal Clean Water Act or those required to protect existing instream water uses.
  3. A surface water quality based effluent limitation modification, as set forth in this subsection, shall be granted for a time period not to exceed that of the pollution control permit in which the limitations appear. On review of the permit, the modified effluent limitations will not be renewed unless the criteria of this subsection are fully met.

- (c) In no case shall the department grant a modification, as set forth in this section, establishing an effluent limitation less stringent than that currently permitted, to existing dischargers who propose to modify their discharge where water quality standards are not presently being met.
- (d) Any request for a public hearing as set forth in this section shall identify the person requesting the hearing, shall state with particularity any objections to the draft effluent limitations, and shall state the issues which are proposed to be raised by such person for consideration at a hearing.
- (e) In those cases in which a hearing has been held pursuant to this section, the effluent limitations established shall become final 30 days after notice of the decision unless an adjudicatory hearing is requested pursuant to N.J.A.C. 7:14A-8.10.

7:9-5.13 Procedures for Reclassifying Specific Segments for less Restrictive Uses

- (a) The department shall maintain those water quality standards which are designated in subchapter 4 of this chapter. From time to time (but at least once each three year period beginning with the date of adoption of these rules), the department shall hold public hearings in accordance with section 303(c) of the Federal Clean Water Act and the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq. for the purpose of reviewing and, as appropriate, revising and adopting standards. Should the department decide at that time to reclassify a segment to allow less restrictive uses than those contained in subchapter 4 of this chapter, it shall follow the procedure set forth in subsections (d) and (e) of this section.
- (b) In addition to the regularly scheduled review of water quality standards, the department will entertain petitions for the reclassification of segments for less restrictive uses at any time. The petition must be fully documented as outlined in subsection (d) of this section. Upon receipt of a petition for reclassification, the department shall review the documents submitted and, based upon such review, determine whether to conduct a public hearing to consider the reclassification.
- (c) For the purpose of this subchapter, a "petitioner" for a reclassification means the department and any existing discharger to the segment.

- (d) The petitioner shall include in the petition for reclassification, appropriate water quality studies and analyses as well as environmental, economic, and social impact statements demonstrating satisfaction of the criterion, listed in paragraph one, two or three of subsection (e) of this section, upon which the petition for reclassification is based.
- (e) The department may establish less restrictive uses than those contained in subchapter 4 of this chapter only when a petitioner for a reclassification demonstrates to the satisfaction of the department, after public notice, including notice to affected persons, and a public hearing, that:
1. The existing designated use is not attainable because of natural background;
  2. The existing designated use is not attainable because of irretrievable man-induced conditions;  
or
  3. Application of effluent limitations for existing sources more stringent than those required pursuant to section 301(b)(2)(A) and (B) of the Federal Clean Water Act would be required and would result in substantial and widespread adverse economic and social impact.
- (f) Any reclassification for less restrictive uses, established pursuant to this section, shall be reviewed by the department at least once each three year period beginning with the date of adoption of such standard.
- (g) In those cases in which a thermal discharge is involved, the procedures for reclassifying segments for less restrictive uses shall be consistent with section 316 of the Federal Clean Water Act.

## SUBCHAPTER 6 GROUND-WATER QUALITY STANDARDS

### 7:9-6.1 Scope of Rules

- (a) Unless otherwise provided by rule or statute, the following shall constitute the rules of the Department of Environmental Protection concerning matters of policy with respect to the protection and enhancement of ground-water resources, use classification, quality criteria, and the designated uses of ground waters of the State pursuant to N.J.S.A. 13:1D-1 et seq., the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., and the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq.
- (b) This subchapter shall apply to the establishment of pollutant limitations and other requirements applicable to those discharger activities that cause pollutants to enter the ground waters of the State.

### 7:9-6.2 Construction

These rules shall be liberally construed to permit the Department and its various divisions to discharge its statutory functions.

### 7:9-6.3 Definitions

The following words and terms, when used in this subchapter shall have the following meanings unless the context clearly indicates otherwise.

"Agriculture water supply" means water used for livestock, horticulture, and silviculture.

"Best management practices" means procedures and methods to control to the extent feasible, pollution from nonpoint sources as described in (208) Areawide Water Quality Management Plans.

"Department" means the New Jersey Department of Environmental Protection.

"Designated area" means the geographic extent of waters where use classes and criteria described herein are to be protected or met.

"Designated use" means present or potential uses of ground water.

"Discharge" means the releasing, spilling, leaking, pumping, pouring, emitting, emptying or dumping of a pollutant into the waters of the State or onto land or into wells from which it might flow, or drain into said waters.

"Discharger" means any person, corporation, municipality, sewerage authority or other legal entity, who causes, suffers, or allows any discharge.

"Effluent limitation" means any restriction on quantities, quality rates and concentration of chemical, physical, thermal, biological and other constituents or pollutants.

"Farming" means the cultivation of the land in order to produce commercial crops including both plant and animal products. Feedlots are excluded from this definition.

"Ground waters" means the portion of water beneath the earth's surface that is at or below the zone of saturation where all the openings are filled with water.

"Individual subsurface sewage disposal system" means a system for the disposal of sewage to the ground, which is so designed and constructed to treat sewage in a manner that will retain most of the settleable solids in a septic tank and to discharge the liquid portion to an adequate disposal area.

"Individual household waste" means an ordinary domestic waste which contains only trace amounts of toxic pollutants which occur incidentally in household products.

"Industrial water supply" means water used for processing or cooling.

"Natural background" means the innate level of a water quality parameter which occurs in water without the influence of man.

"Pollutant" means any dredged spoil, solid waste, incinerator residue, sewage, garbage, refuse, oil, grease, sewage sludge, munitions, chemical wastes, biological materials, radioactive substance, thermal waste, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal or agricultural waste or other residue discharged or entering into the waters of the State.

"Toxic pollutants" means those substances, or combination of substances, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly through food chains, will, on the basis of information available to the department, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations, in such organisms or their offspring.

"Treatment works" means any device or systems, whether public or private, used in the storage, treatment, recycling or reclamation of municipal or industrial waste of a liquid nature including

intercepting sewers, outfall sewers, sewage collection systems, cooling towers and ponds, pumping power and other equipment and their appurtenances; extensions, improvements, remodeling, additions, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities; and any other works including sites for the treatment process or for ultimate disposal of residues resulting from such treatment. Additionally, "treatment works" means any other method or system for preventing, abating, reducing, storing, treating, separating, or disposing of pollutants, including storm water runoff, or industrial waste in combined or separate storm water and sanitary sewer systems.

"Water quality criteria" means a designated concentration of a constituent that, when not exceeded, will protect an organism, an organismic community, or a prescribed water use or quality.

"Wildlife" means all undomesticated animals.

"Zone of saturation" means that portion of the earth's crust which is saturated with water.

#### 7:9-6.4 Statements of Policy

- (a) Water is vital to life and comprises an invaluable natural resource which is not to be abused by any segment of the State's population or its economy. It is the policy of this State to restore, enhance, and maintain the chemical, physical and biological integrity of its waters, to protect public health, to safeguard fish and aquatic life and scenic and ecological values and to enhance the domestic, municipal, recreational, industrial and other uses of water.
- (b) It is the policy of the Department not to permit the introduction of pollutants into the ground waters of the State in concentrations which are known to be toxic, carcinogenic, mutagenic, or teratogenic. The Department, to the maximum extent possible, will direct its control efforts to require the removal of such pollutants from discharges where such discharges are shown to already occur in the waters of the State.
- (c) Existing and potential uses of ground water shall be maintained and protected. Where existing quality is inadequate to support designated uses, such quality shall be upgraded after the Department has evaluated the threat to public health and safety and the results of inaction relative to the protection of the present and potential uses of the resource.
- (d) The Department shall define the designated uses which are to be protected and maintained, identify those waters to which each designated use applies, and establish numerical or

descriptive criteria for water quality substances in a manner that is consistent with the designated uses and policies described in this section.

- (e) The purpose of these rules is to protect the ground waters of the State for use as agricultural, industrial, and potable water supplies and other reasonable uses, and as a supplement to surface waters for recreation, wildlife, fish and other aquatic life, agriculture, industry, and potable water supply.
- (f) Discharges to ground water which subsequently discharges into surface waters and which would cause a contravention of those surface water quality standards shall not be permitted.
- (g) Existing ground-water quality which exceeds those levels necessary to support designated uses shall be maintained and protected unless the State chooses to allow lower water quality as a result of necessary and justifiable economic or social development. In no event, however, may degradation of water quality interfere with or become injurious to existing designated uses. Additionally no degradation shall be allowed in ground waters which constitute an outstanding National resource such as ground waters of National and State Parks, wildlife refuges, and wildlife management areas and ground waters of exceptional ecological significance.
- (h) Where existing ground-water quality does not meet the criteria listed herein, due primarily to man's activities, it is the policy and objective of the department that the quality be restored and upgraded to the minimum levels of quality stated in section 6 of this subchapter.
- (i) When existing water quality does not conform with the established minimum criteria solely as a result of natural causes, natural water quality characteristics shall prevail.
- (j) The following statements concern the nondegradation of Central Pine Barrens water quality.
  - 1. The Central Pine Barrens Area constitutes a unique and particularly fragile ecosystem compared with other coastal areas. Furthermore, the ground waters in the Central Pine Barrens have a major impact on the quantity and quality of the surface waters in the Central Pine Barrens. The vast high quality ground-water reservoir in the area necessitates a special State ground-water quality policy. In light of the vulnerable character of the area, the Department of Environmental Protection shall not, in the performance of its statutory duties, approve any activity which, alone or in combination with other activities, will cause degradation in the existing

ground-water quality characteristics of the Central Pine Barrens.

2. The State's Central Pine Barrens water quality policy is not intended to interfere with water use for the operation of cranberry bogs or blueberry production.

7:9-6.5 Ground Water Designated Uses And Quality Criteria

- (a) The Department will adopt as part of these regulations, after proper procedure, Water Quality Criteria and Effluent Limitations for additional toxic pollutants pursuant to the Clean Water Act, Sections 301, 304, and 307 of P.L. 92-500, as amended by P.L. 95-217 (33 U.S.C.A. 1251 et seq.).
- (b) When existing ground-water quality does not meet the criteria listed in section 6 of this subchapter, due primarily to man's activities, the department shall, after a review of all available scientific and technical data, determine whether it shall require dischargers, through a schedule of compliance or other manner deemed appropriate by the Department, to restore and upgrade the ground water to the minimum levels of quality stated in section 6 of this subchapter or contain the contamination within boundaries determined by the Department. The major considerations in making such a determination shall be whether, in the opinion of the Department, the degradation constitutes a threat to public health and safety or interferes with the present or potential uses of ground water.

The timing, nature, and extent of the compliance procedure shall be determined by the Department after a review of the specific factors affecting each individual case.

- (c) Class GW2 ground water having a natural total dissolved solids (TDS) concentration of 500 mg/l or less shall be suitable for potable, industrial, or agricultural water supply, after conventional water treatment (for hardness, pH, Fe, Mn, and chlorination) where necessary, or for the continual replenishment of surface waters to maintain the quantity and quality of the surface waters of the State, and other reasonable uses. Quality criteria for these waters may be found in section 6 of this subchapter.
- (d) Class GW3 ground water having a natural TDS concentration between 500 mg/l and 10,000 mg/l shall be suitable for conversion to fresh potable waters, or other reasonable beneficial uses. Quality criteria for these waters may be found in section 6 of this subchapter.
- (e) Class GW4 ground water having a natural total dissolved solids concentration in excess of 10,000 mg/l shall be suitable for any reasonable beneficial use. Effluent limits

and quality criteria will be determined on a case by case basis for these waters.

- (f) Class GW1 ground water in the Central Pine Barrens shall be suitable for potable water supply, agricultural water supply, continual replenishment of surface waters to maintain the existing quantity and high quality of the surface waters in the Central Pine Barrens, and other reasonable uses. Quality criteria for these waters may be found in section 6 of this subchapter.
- (g) Subdivision of the groundwater categories identified in this section shall follow the procedures in section 10 of this subchapter.

#### 7:9-6.6 Ground-Water Quality Criteria

The maximum limits for a specific criterion shall be exceeded only as a result of natural conditions.

The Department may establish limits in the terms and conditions of a permit which will allow the secondary standards as identified in subsections 7:9-6.6(b) and (c) to be exceeded provided that there is no adverse effect upon the designated uses of ground water.

- (a) Ground-Water Quality Criteria for the Central Pine Barrens:  
Class GW1

<u>Pollutant, Substance or Chemical</u>	<u>Ground-Water Quality Criteria</u>
1. Aldrin/Dieldrin	1. 0.003 ug/l
2. Arsenic and Compounds	2. 0.05 mg/l
3. Barium	3. 1.0 mg/l
4. Benzidine	4. 0.0001 mg/l
5. Cadmium	5. Natural Background
6. Chromium (Hexavalent) and Compounds	6. Natural Background
7. Cyanide	7. 0.2 mg/l
8. DDT and Metabolites	8. 0.001 ug/l
9. Endrin	9. 0.004 ug/l
10. Lead and Compounds	10. 0.05 mg/l
11. Mercury and Compounds	11. 0.002 mg/l
12. Nitrate-Nitrogen	12. 2.0 mg/l
13. Phenol	13. 0.3 mg/l
14. Polychlorinated Biphenyls	14. 0.001 ug/l
15. Radionuclides	15. Prevailing regulations adopted by the U.S.E.P.A. pursuant to sections 1412, 1415 and 1450 of the Public Health Services Act as amended by the Safe Drinking

16. Selenium and Compounds	Water Act (PL 93-523)
17. Silver and Compounds	16. Natural Background
18. Toxaphene	17. 0.05 mg/l
19. Ammonia	18. 0.005 ug/l
20. BOD (5-day)	19. 0.5 mg/l
21. Chloride	20. 3 mg/l
22. Coliform Bacteria	21. 10 mg/l
	22. a) by membrane filtration, not to exceed four per 100 ml in more than one sample when less than 20 are examined per month, or b) by fermentation tube, with a standard 10 ml por- tion, not to be present in three or more portions in more than one sample when less than 20 are examined per month, or c) prevailing criteria adopted pursuant to the Federal Safe Drinking Water Act (PL 93-523)
23. Color	23. None Noticeable
24. Copper	24. 1.0 mg/l
25. Fluoride	25. 2.0 mg/l
26. Foaming Agents	26. 0.5 mg/l
27. Iron	27. 0.3 mg/l
28. Manganese	28. 0.05 mg/l
29. Odor and Taste	29. None Noticeable
30. Oil and Grease and Petroleum Hydrocarbons	30. None Noticeable
31. pH (Standard Units)	31. 4.2-5.8
32. Phosphate, Total	32. 0.7 mg/l
33. Sodium	33. 10 mg/l
34. Sulfate	34. 15 mg/l
35. Total Dissolved Solids	35. 100 mg/l
36. Zinc and Compounds	36. 5 mg/l

(b) Ground-Water Quality Criteria Statewide where the Total Dissolved Solids (TDS, Natural Background) Concentration is less than or equal to 500 mg/l: Class GW2

<u>Pollutant, Substance Or Chemical</u>	<u>Ground Water Quality Criteria</u>
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Primary Standards/Toxic Pollutants

1. Aldrin/Dieldrin	1. 0.003 ug/l
2. Arsenic and Compounds	2. 0.05 mg/l
3. Barium	3. 1.0 mg/l

4. Benzidine	4. 0.0001 mg/l
5. Cadmium and Compounds	5. 0.01 mg/l
6. Chromium (Hexavalent) and Compounds	6. 0.05 mg/l
7. Cyanide	7. 0.2 mg/l
8. DDT and Metabolites	8. 0.001 ug/l
9. Endrin	9. 0.004 ug/l
10. Lead and Compounds	10. 0.05 mg/l
11. Mercury and Compounds	11. 0.002 mg/l
12. Nitrate-Nitrogen	12. 10 mg/l
13. Phenol	13. 3.5 mg/l
14. Polychlorinated Biphenyls	14. 0.001 ug/l
15. Radionuclides	15. Prevailing regulations adopted by the USEPA pursuant to sections 1412, 1415, and 1450 of the Public Health Services Act as amended by the Safe Drinking Water Act (PL 93-523)
16. Selenium and Compounds	16. 0.01 mg/l
17. Silver and Compounds	17. 0.05 mg/l
18. Toxaphene	18. 0.005 ug/l

#### Secondary Standards

19. Ammonia	19. 0.5 mg/l
20. Chloride	20. 250 mg/l
21. Coliform Bacteria	21. a) by membrane filtration, not to exceed four per 100 ml in more than one sample when less than 20 are examined per month, or b) by fermentation tube, with a standard 10 ml portion, not to be present in three or more portions in more than one sample when less than 20 are examined per month, or c) Prevailing criteria adopted pursuant to the Federal Safe Drinking Water Act (PL 93-523)
22. Color	22. None Noticeable
23. Copper	23. 1.0 mg/l
24. Fluoride	24. 2.0 mg/l
25. Foaming Agents	25. 0.5 mg/l
26. Iron	26. 0.3 mg/l
27. Manganese	27. 0.05 mg/l
28. Odor and Taste	28. None Noticeable
29. Oil and Grease and	29. None Noticeable

	Petroleum Hydrocarbons	
30.	pH (Standard Units)	30. 5-9
31.	Phenol	31. 0.3 mg/l
32.	Sodium	32. 50 mg/l
33.	Sulfate	33. 250 mg/l
34.	Total Dissolved Solids	34. 500 mg/l
35.	Zinc and Compounds	35. 5 mg/l

- (c) Ground Water Quality Criteria Statewide where the Total Dissolved Solids (TDS, Natural Background) Concentration is between 500 mg/l and 10,000 mg/l: Class GW3

Primary Statewide/Toxic Pollutants

<u>Pollutant, Substance or Chemical</u>	<u>Ground-Water Quality Criteria</u>
1. Aldrin/Dieldrin	1. 0.003 ug/l
2. Arsenic and Compounds	2. 0.05 mg/l
3. Barium	3. 1.0 mg/l
4. Benzidine	4. 0.0001 mg/l
5. Cadmium and Compounds	5. 0.01 mg/l
6. Chromium (Hexavalent) and Compounds	6. 0.05 mg/l
7. Cyanide	7. 0.2 mg/l
8. DDT and Metabolites	8. 0.001 ug/l
9. Endrin	9. 0.004 ug/l
10. Lead and Compounds	10. 0.05 mg/l
11. Mercury and Compounds	11. 0.002 mg/l
12. Nitrate-Nitrogen	12. 10 mg/l
13. Phenol	13. 3.5 mg/l
14. Polychlorinated Biphenyls	14. 0.001 ug/l
15. Radionuclides	15. Prevailing regulations adopted by the USEPA pur- suant to sections 1412, 1415 and 1450 of the Public Health Services Act as amended by the Safe Drinking Water Act (PL 93-523)
16. Selenium and Compounds	16. 0.01 mg/l
17. Silver and Compounds	17. 0.05 mg/l
18. Toxaphene	18. 0.005 ug/l

Secondary Standards

19. Ammonia	19. 0.5 mg/l
20. Chloride	20. Natural Background
21. Coliform Bacteria	21. a) by membrane filtration, not to exceed four per 100 ml in more than one sample when less than 20 are examined per month, or

b) by fermentation tube, with a standard 10 ml portion, not to be present in three or more portions in more than one sample when less than 20 are examined per month, or  
c) Prevailing criteria adopted pursuant to the Federal Safe Drinking Water Act (PL 93-523)

22. Color	22. None Noticeable
23. Copper	23. 1.0 mg/l
24. Fluoride	24. 2.0 mg/l
25. Foaming Agents	25. 0.5 mg/l
26. Iron	26. 0.3 mg/l
27. Manganese	27. 0.05 mg/l
28. Odor and Taste	28. None Noticeable
29. Oil and Grease and Petroleum Hydrocarbons	29. None Noticeable
30. pH (Standard Units)	30. 5-9
31. Phenol	31. 0.3 mg/l
32. Sodium	32. Natural Background
33. Sulfate	33. Natural Background
34. Total Dissolved Solids	34. Natural Background
35. Zinc and Compounds	35. 5 mg/l

#### 7:9-6.7 Ground Water Designated Areas

- (a) All areas of the State shall be classified either: Statewide, except Central Pine Barrens; or Central Pine Barrens.
- (b) The Statewide designated area shall be all areas of the State except as provided in subsection (c) of this section.
- (c) The Central Pine Barrens Area (The Boundary of Central Pine Barrens is further clarified by the Official Map which is available for review at the New Jersey Department of Environmental Protection, Division of Water Resources or appropriate county planning board, board of health, or municipality.) boundaries will underlie the following surface water drainages;
  1. Mullica River Watershed
    - i. Mullica River and tributaries upstream from Lower Bank Road Bridge at Lower Bank to source.
    - ii. Wading River and tributaries upstream of Route 542 Bridge to source.
      - (A) Freshwater segment of Ives Branch and its tributaries from 10 foot contour crossing Ives Branch.

- iii. West Branch Bass River and tributaries upstream from the Bass River State Forest Boundary (where it crosses the West Branch of Bass River, downstream of Stage Road).
    - iv. East Branch Bass River and tributaries upstream from the Bass River State Forest boundary (where it crosses the East Branch Bass River, downstream of Stage Road).
    - v. Indian Cabin Creek and tributaries upstream from Egg Harbor City Lake to source.
  2. Cedar Creek (Lacey Township) and tributaries upstream of Route 9, (head of tide) surrounded by the northern ridgeline; and the southern ridgeline west of the Garden State Parkway and the southern ridgeline (between the Garden State Parkway and Route 9) as defined by Lacey Road, Manchester Avenue, and Haines Road.
  3. All fresh waters west of the Garden State Parkway bounded by the Mullica and Cedar Creek (Lacey Township) watersheds.
  4. Toms River Watershed
    - i. Devanport Branch and tributaries upstream from Route 530 to source.
    - ii. Unnamed tributary to Michaels Branch through Keswick Grove and tributaries upstream from the east crossing of the Penn Central Railroad to source.
  5. Rancocas Creek Watershed
    - i. South Branch Rancocas Creek and tributaries upstream from Route 206 to source.
    - ii. Jade Run and tributaries upstream from Route 206 to source.
    - iii. Mt. Misery Brook and tributaries upstream of the western intersection of the Lebanon State Forest boundary at Mt. Misery.
    - iv. Tributaries to Pole Bridge Branch upstream of the Penn Central Railroad.
  6. The Central Pine Barrens boundary underlies the surface water drainages in the following State and National Park, Forests, and Fish and Wildlife lands.

- i. Greenwood Branch and tributaries within the boundaries of Greenwood Pampocas Reserve and Lebanon State Forest.
- ii. Tributaries to Country Lake, Mirror Lake and Hanover Lake within the boundaries of the Whitesbog Fish and Wildlife Management Area and Lebanon State Forest.
- iii. All waters within the Wharton Tract State Forest.
- iv. All waters within the following portions of the Bass River State Forest.
  - (A) That portion located on the New Gretna and Oswego Lake USGS Quadrangle Maps which is uninterrupted by private lands and contiguous to the Ives Branch and Bartletts Branch watersheds lying both north and south of Stage Road.
  - (B) That portion located on the New Gretna USGS Quadrangle Map which is uninterrupted by private lands and contiguous to and lying to the south of Stage Road.
  - (C) That portion located on the New Gretna and Oswego Lake USGS Quadrangle Maps which is uninterrupted by private lands and contiguous to and lying to the southeast of the Garden State Parkway.

7:9-6.8 Effluent Standards And Discharger Requirements

- (a) Any discharger of a pollutant onto the land or into the ground water, either directly or indirectly, shall obtain a permit pursuant to N.J.S.A. 58:10A-1 et seq., and regulations promulgated thereunder (N.J.A.C. 7:14A-1.1 et seq.).
- (b) The review of any discharge into the ground water or onto the land will consider all of the scientific and technical criteria and parameters as set forth in the most recent edition of the appropriate guidelines for that discharge as developed and published by the Department.
- (c) Where total dissolved solids are in excess of 10,000 mg/l discharger requirements and effluent limitations will be established on a case by case basis.
- (d) In developing effluent guidelines and limitations, special attention shall be given to protecting aquifer recharge areas.

Procedures for Modifying Ground-Water Quality Based  
Effluent Limitations

- (a) The criteria for modifying ground-water quality based effluent limitations where existing ground-water quality is currently better than applicable ground-water quality criteria are as follows:
1. Whenever the Department determines that existing ground-water quality in an area is consistently better in quality than established ground-water quality criteria, the Department shall establish water quality based effluent limitations for new dischargers or those existing dischargers who propose to modify their discharge, which can reasonably be expected to protect the high quality waters from degradation. However, the applicant or any interested person may request a modification of such effluent limitations. Such a request shall be made, in writing, within 30 days of notice of intent to issue the NJPDES Permit. If the Department does not receive such a request for modification, the draft effluent limitations shall become final. In no case shall the Department establish a water quality based effluent limitation lower than that necessary to maintain the existing high water quality unless:
    - i. The applicant for such effluent limitations demonstrates to the satisfaction of the Department, after public notice, including notice to affected municipalities and, a public hearing, that:
      - (A) There is no reasonable relationship between the economic and social costs of achieving the draft effluent limitations and the benefits to be obtained in maintaining existing ground water quality. Economic and social costs shall include social and economic dislocation in the affected community or communities; and
      - (B) Some degradation of high quality waters should be allowed because of necessary and justifiable economic or social development; and
      - (C) A detailed scientific assessment shows that the alternative effluent limitations will not interfere with or be injurious to designated ground water uses; or
    - ii. The Department determines, after public notice including notice to affected municipalities, of the opportunity for a public hearing that:

- (A) Some degradation of high quality waters should be allowed because of necessary and justifiable economic and social development; and
  - (B) A detailed scientific assessment shows that the alternative effluent limitations will not interfere with or be injurious to designated ground water uses.
2. In no case shall degradation be allowed in ground waters which constitute an outstanding national resource such as waters underlying National and State parks, wildlife refuges, wildlife management areas and ground waters of exceptional ecological significance.
  3. A ground-water quality based effluent limitation modification shall be granted for a time period not to exceed that of the NJPDES Permit in which the limitations appear. On review of the permit, the modified effluent limitations will be renewed if, in the opinion of the Department, there has been no adverse effect on water quality or designated uses.
- (b) Criteria for modifying ground-water quality based effluent limitations where existing ground-water quality is equal to or worse than applicable ground-water quality criteria are as follows:
1. Whenever the Department determines that ground-water quality is consistently worse than or equal to applicable ground-water quality criteria, the Department may establish effluent limitations which can reasonably be expected to attain and maintain water quality standards. However, the applicant or any interested person may request a modification of such effluent limitations. Such a request shall be made, in writing, within 30 days of notice of intent to issue the NJPDES Permit. If the Department does not receive such a request for modification, the draft effluent limitations shall become final. In no case shall the Department establish a ground-water quality based effluent limitation less stringent than that necessary to attain or maintain water quality criteria unless the applicant for any such effluent limitation modification demonstrates to the Department, after a public hearing, that:
    - i. The existing designated use is not attainable because of natural background; or
    - ii. The existing designated use is not attainable because of irretrievable man-induced conditions; or

- iii. There is no reasonable relationship between the economic and social costs of achieving the draft effluent limitations, and the benefits to be obtained in maintaining or attaining water quality criteria. Economic and social costs shall include social and economic dislocation in the affected community or communities.
2. In no case shall the Department establish effluent limitations less stringent than those required to protect existing ground-water uses.
3. A ground water quality based effluent limitation modification shall be granted for a time period not to exceed that of the NJPDES permit in which the limitations appear. On review of the permit, the variance will not be renewed unless the criteria of this subsection are fully met.

7:9-6.10 Procedures for Establishing Subclassifications for less Restrictive Uses

- (a) The Department shall maintain those water quality standards which are designated in this sub-chapter. From time to time (but at least once each three year period beginning with the date of adoption of these rules), the Department shall hold public hearings in accordance with the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq., for the purpose of reviewing and, as appropriate revising and adopting standards. Should the Department decide at that time to establish a subclass of GW waters which allow less restrictive uses than those of section five of this subchapter, it shall follow the procedures set forth in subsections (e) and (f) of this section.
- (b) In addition to the regularly scheduled review of water quality standards, the Department will entertain petitions for the subclassification of designated areas for less restrictive uses at any time. The petition must be fully documented as outlined in subsection (c) of this section. Upon receipt of a petition for subclassification, the Department shall review the documents submitted and, based upon such review, determine whether to conduct a public hearing to consider the subclassification.
- (c) In reviewing a petition for subclassification for less restrictive uses, the Department shall refuse to consider a subclassification which, in the opinion of the Department, would constitute a threat to public health and safety.
- (d) For the purpose of this section, a "petitioner" for subclassification means the Department and any existing discharger to the designated area.

- (e) The petitioner shall include in the petition for subclassification, appropriate groundwater quality studies and analyses as well as environmental, economic, and social impact statements demonstrating satisfaction of the criteria listed in paragraph one, and two or three of subsection (f) of this sections, upon which the petition for subclassification is based.
- (f) The Department may establish less restrictive uses than those contained in subsection (d) of section six of this subchapter when a petitioner for subclassification demonstrates to the satisfaction of the Department, after public notice, including notice to affected persons, and a public hearing, that:
1. The designated use is not being achieved because of the presence in the designated area of a pollutant or pollutants, other than TDS, and
  2. The designated use is not attainable because of irretrievable man-induced conditions; or
  3. The environmental, economic, and social costs of restoring the waters in order to attain the designated use bear no reasonable relationship to the environmental, economic, and social benefits to be obtained.
- (g) Any subclassification for less restrictive uses established pursuant to this section shall be for a specifically delineated area which shall not be extended through improper use of the groundwaters therein.
- (h) Subclassification for less restrictive uses shall be reviewed by the Department at least once each three year period beginning with the date of adoption of such subclassification.

SUB6-]:dlw/caz



TAB NO. 6

PROGRAM REQUIREMENTS MEMORANDUM

PRM # 78-9

FUNDING OF SEWAGE COLLECTION SYSTEM PROJECTS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 3 1978

OFFICE OF WATER AND  
HAZARDOUS MATERIALS

Construction Grants  
Program Requirements Memorandum  
PRM # 78-9

SUBJECT: Funding of Sewage Collection System Projects

FROM: John T. Rhett, Deputy Assistant Administrator  
for Water Program Operations (WH-546)

TO: Regional Administrators  
Attn: Water Division Directors

I. PURPOSE

This memorandum supersedes Program Requirements Memorandum (PRM) No. 77-8, on construction grant funding of sewage collection system projects and amends that policy in accordance with P.L. 95-217. This memorandum sets forth guidance for rigorous review of grant applications to ensure that proposed projects meet the established requirements of both P.L. 92-500 and P.L. 95-217, plus the construction grant regulations.

II. DISCUSSION

Sewage collection system projects may be grant eligible projects under P.L. 92-500 (the Act). Eligibility is limited, however, by Section 211 of the Act which provides for funding of collection systems only (1) for the replacement or major rehabilitation of an existing collection system or (2) for new collection systems in existing communities.

Sewage collection systems are defined in 40 CFR §35.905-19 as:

For the purpose of §35.925-13, each, and all, of the common lateral sewers, within a publicly-owned treatment system, which are primarily installed to receive wastewaters directly from facilities which convey wastewater from individual structures or from private property, and which include service connection "Y" fittings designed for connection with those facilities. The facilities which convey wastewater from individual structures or from private property to the public lateral sewer, or its equivalent, are specifically excluded from the definition, with the exception of pumping units, and pressurized lines, for individual structures or groups of structures when such units are cost-effective and are owned and maintained by the grantee.

The eligibility of sewage collection system projects is further defined in 40 CFR §35.925-13, which reads:

That, if the project is for, or includes sewage collection system work, such work (a) is for replacement or major rehabilitation of an existing sewer system pursuant to §35.927-3(a) and is necessary to the total integrity and performance of the waste treatment works servicing such community, or (b) is for a new sewer system in a community in existence on October 18, 1972, with sufficient existing or planned capacity to adequately treat such collected sewage. Replacement or major rehabilitation of an existing sewer system may be approved only if cost-effective and must result in a sewer system design capacity equivalent only to that of the existing system plus a reasonable amount for future growth. A community, for purposes of this section, would include any area with substantial human habitation on October 18, 1972. No award may be made for a new sewer system in a community in existence on October 18, 1972, unless it is further determined by the Regional Administrator that the bulk (generally two-thirds) of the flow design capacity through the sewer system will be for waste waters originating from the community (habitation) in existence on October 18, 1972.

The above sections of the EPA regulations implement Section 211 of P.L. 92-500.

Section 36 of P.L. 95-217 amends Section 211 of P.L. 92-500 to preclude use of the population density criterion in PRM 77-8 as a test of grant eligibility for collector sewer projects but permits use of the criterion for evaluating alternatives. A one household per two acre density criterion may be used only for identifying less closely populated areas where individual or other small wastewater treatment systems are likely to be more cost-effective than collector sewers and thus must be evaluated in detail if collector sewers are proposed for such areas. Such use of the population density criterion should assist with and simplify the cost-effectiveness analysis for collector sewer projects.

All treatment works funded under the Construction Grants Program must be cost-effective to comply with the requirements of the Acts. Treatment works are defined in Section 212 to include sewage collection systems. EPA cost-effectiveness requirements are found in 40 CFR §35.925-and in Appendix A to 40 CFR, Part 35.

Public disclosure of costs is a fundamental prerequisite for all grants projects, including collection systems. Program Requirements Memorandum 76-3, "Presentation of Local Government Costs of Wastewater Treatment Works in Facility Plans," August 16, 1976, requires that cost information be presented at all public hearings held on facility plans

after January 2, 1977. However, public hearings were held on many collection system projects prior to this date. Special measures are necessary to ensure the public is aware of the cost implications of collection systems prior to their approval.

The following policy is to be followed in preparing future grant applications for collection system projects. This policy supplements all existing Agency regulations and policy statements. It provides guidance for more rigorous review of grant applications to ensure that proposed projects meet the established requirements of the law and regulations. Compliance with this policy will help to assure that only grant eligible and cost-effective collection system projects are funded by EPA.

### III. Policy

EPA policy on the funding of sewage collection systems is as follows:

#### A. Substantial human habitation

New collector sewer projects are eligible for funding only in a community in existence on October 18, 1972, with sufficient existing or planned capacity to adequately treat such collected sewage. A community qualifying for Federal grant assistance to construct a collector sewer system may be a geographic or jurisdictional area that is smaller than the jurisdiction of the municipality applying for the treatment facility grant. The Title II regulation states in Section 35.925-13 that a community would include any area with substantial human habitation on October 18, 1972. The bulk (generally two-thirds) of the flow design capacity through the sewer system is to be for wastewaters originating from the habitation existing on October 18, 1972.

The Agency policy is that areas to be served by new collector sewer projects must meet the requirement for "substantial human habitation." Habitation existing as of October 18, 1972, should be evaluated block by block or, where typical city blocks do not exist, by areas of five acres or less to determine if it is substantial. Collector pipes designed primarily to serve blocks or five acre areas without substantial human habitation as of October 18, 1972, would not be eligible for grant assistance.

#### B. Cost-effectiveness

New collector sewers must be proven in the facility plan to be necessary and cost-effective in addition to being eligible under the "substantial human habitation" and the two-thirds rule requirements.

New collector sewers should be funded only when the systems in use (e.g., septic tanks or raw discharges from homes) for disposal of wastes from the existing population are creating a public health problem, contaminating groundwater, or violating the point source discharge requirements of the Act. Specific documentation of the nature and extent of health, groundwater and discharge problems must be provided in the facility plan. Where site characteristics are considered to restrict the use of on-site systems, such characteristics, (e.g., groundwater levels, soil permeability, topography, geology, etc.) must be documented by soil maps, historical data and other pertinent information.

The facility plan must also document the nature, number and location of existing disposal systems (e.g., septic tanks) which are malfunctioning. A community survey of individual disposal systems is recommended for this purpose, and is grant eligible.

Where the population density within the collection system area is less than 1.7 persons per acre (one household per two acres), collector sewer projects shall be considered non-cost-effective unless a severe pollution or public health problem is specifically documented and collector sewers are shown to be clearly less costly than any of the alternatives for sparsely populated areas as cited below.

In addition, the facility plan must demonstrate, where population density is less than ten persons per acre, that alternatives are less cost-effective than new gravity collector sewer construction and centralized treatment. Such alternatives are cited in the previous Administrator's memorandum of December 30, 1976, subject: "Encouraging Less Costly Wastewater Facilities for Small Communities."

The alternatives to be evaluated include the following:

- measures to improve operation and maintenance of existing septic tanks, including more frequent inspections, timely pumpouts and prohibition of garbage grinders.
- new septic tanks.
- holding tanks and "honey wagons."
- various means of upgrading septic tanks, including mounds, alternate leaching fields and pressure sewers plus ponds or other small treatment facilities.
- other systems to serve individual households or a cluster of households. Such systems include, for example, wastewater separation, water conservation and recycle systems where feasible.

The facility plan, where applicable, must examine alternatives such as limited sewer service for a portion of a community. For example, septic systems work very well in many small towns except in one isolated area such as a business district where open space for adequate on-site disposal is not available.

The collection system shall not afford capacity for new habitations or other establishments to be located on environmentally sensitive lands such as wetlands, floodplains or prime agricultural lands. Moreover, the proposed collection system must conform with approved 208 plans and air quality plans, Executive Orders on Wetlands and Floodplains, and Agency policy on wetlands.

#### C. Public disclosure of costs

All projects, including collection systems, on which public hearings were held after January 2, 1977, must comply fully with the requirements of Program Requirements Memorandum 76-3 prior to approval.

Agency policy is to ensure public disclosure of the costs of any collection system projects where a public hearing was held on or before January 2, 1977. Such disclosures shall take the form of a prominently published notice in a local newspaper, and the cost is grant eligible.

The notice shall include the estimated monthly charge for operation and maintenance, the estimated monthly debt service charge, the estimated connection charge and the total monthly charge to a typical residential customer for the new collection system being funded and any other associated wastewater facilities required. Such associated facilities would include new treatment capacity needed to handle the flows from the new collection system.

The charges may only be rough estimates, and may be presented as a range of possible costs when major unknowns exist, such as whether or not substantial parts of the project are grant eligible.

#### IV. Implementation

The States are to be advised of the issuance of this amended policy at once. All pending and future grant applications for collection system projects or projects containing collection systems are to be reviewed for compliance with this policy.

V. References

- A. Sections 201, 211, 212, P.L. 92-500 and Section 36 of P.L. 95-217.
- B. 40 CFR §§35.905-19, 925-7, 925-13, Appendix B.
- C. PRM 76-3, "Presentation of Local Government Costs of Wastewater Treatment Works in Facility Plans," August 16, 1976.
- D. Memorandum to Regional Administrators from Russell E. Train, "Encouraging Less Costly Wastewater Facilities for Small Communities," December 30, 1976.



TAB NO. 7

NEW JERSEY GROUNDWATER CRISIS

## NEW JERSEY GROUNDWATER CRISIS

New Jersey ranks as the third most intensive use of groundwater in the nation, below California and Hawaii at  $150\text{m}^3/\text{day}/\text{km}^2$  (Burmaster, 1982) or the equivalent of 166 gal./day/acre.

On August 23, 1980 the Star Ledger of Newark, New Jersey reported the following:

"A New Jersey environmental official yesterday told a congressional subcommittee that the State's water situation is on the verge of a crises because of the pollution of groundwater and surface waters."

The Star Ledger further quotes Arnold Schiffman, Director of the Division of Water Resources, as testifying at a joint hearing of James J. Florio (D-1st District) Transportation and Commerce Subcommittee and the Health and Environment Subcommittee chaired by Rep. Henry A. Waxman (D-California) that:

"I believe that New Jersey's groundwater are among the worst in the nation..... Based on reported problems alone, without a formal program to seek out pollution, we have already closed 13 public water supply wells with a combined capacity of 9 million gallons per day. Approximately 500 individual household wells have been closed."

These observations reflect the great concern of the State of New Jersey and the voters of the State who passed the 1981 Water Supply Bond Act in order to reinforce and expand the provision of the Safe Drinking Water Act of 1977. To that goal, NJDEP conducted in 1982 through 1983 and submitted in February 1983, a Special

Water Treatment Study, Phase I, prepared by James M. Montgomery, Consulting Engineer. This report investigated organic contamination of surface and groundwater supplies used for drinking water sources in the State of New Jersey.

The Executive Summary of the NJDEP Special Water Treatment Study reflected among other pertinent conclusions that:

"Existing monitoring data of organic contaminants in surface sources in New Jersey are inadequate to determine the full extent of this organic contamination."

In addition the Study states that:

"Such monitoring should be of sufficient frequency and of sufficient breadth to measure a wide spectrum of organic fractions, in addition to volatile organic chemical (VOC's)."

Of greater significance to groundwater contamination problems, the Study clearly indicates that it may be expected that organic contamination problems in groundwater may become more serious in the future. The Study further emphasizes that a broader spectrum of organic compounds may threaten groundwater resources than is indicated by current water quality data.

As a result of this Study, the State of New Jersey has adopted on July 1, 1982 and as amended on March 7, 1983, "Assembly Bill No. 280", a Act, attached herewith concerning the periodic testing of public water supplies, establishing penalties for non-compliance, amending P.L. 1945, C.5 and amending and supplementing P.L. 1977, C224 (C.58:12A-1 et seq.).

# Official foresees state water crisis

(Continued from Page One)

power, there is no substitute for water."

At yesterday's hearing, Schiffman said the Jackson Township dump which has

contaminated the surrounding water sources is unlikely to be cleaned up. "The chances of remedies at Jackson Township are very poor although technically feasible. It can be cleaned up, but at great expense," he said.

Scientists have apparently changed their views on the possibility of groundwater pollution in recent years. According to much of the testimony at the hearing, they had previously thought that groundwater could not be polluted.

However, they have since learned the pollution does not appear quickly because groundwater moves slowly. In addition, because

of the slow movement, the pollution remains for years.

Sweep T. Davis, Environmental Protection Agency associate assistant administrator for water and waste management, told the subcommittees, "The evidence that groundwater is vulnerable is abundant. The likelihood of further deterioration nationally is clear. The need for preventive action is compelling."

He said EPA has begun a program to develop a strategy for combating groundwater pollution. A policy draft is expected to be issued next month, he said.

Both Schiffman and

Davis said a crucial element in the pollution struggle is the hazardous waste superfund, a Florio-sponsored measure which has spent several months in four congressional committees. The superfund provides funds from industry and government for the cleanup of abandoned dumpsites.

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# The Star-Ledger

The Newspaper for New Jersey

Newark, N. J. Saturday, August 23, 1980

## Water crisis warning

### State expert points to polluted underground reserves

By DAVID SMALLEN

Star-Ledger Washington Bureau

WASHINGTON — A New Jersey environmental official yesterday told a congressional subcommittee that the state's water situation is on the verge of a crisis because of the pollution of groundwater and surface waters.

Arnold Schiffman, director of the Division of Water Resources, told Rep. James J. Florio (D-1st Dist.), who asked about the possibility of a crisis, "The answer is an unqualified yes. Our water resources are already polluted as to surface water. Groundwater is our ace in the hole and there is a question as to its integrity."

According to Schiffman, New Jersey is among the eastern states that uses a large percentage of groundwater. The state ranks seventh in the nation in gallons pumped per square mile with more than

half the drinking water in the state coming from groundwater.

Noting that the state has to prevent further pollution of groundwater as well as clean up the already polluted groundwater, Schiffman said, "Our resources are inadequate for the task. Our efforts have only scratched the surface. We're doing what we have to do."

Schiffman testified at a joint hearing of Florio's transportation and commerce subcommittee and the health and environment subcommittee chaired by Rep. Henry A. Waxman (D-Calif.).

"I believe that New Jersey's groundwater problems are among the worst in the nation," he told the subcommittees. "Based on reported problems alone, without a formal program to seek out pollution, we have already closed 13 public water supply wells with a combined capacity of 9 million gallons per day. Approximately 500

individual household wells have been closed."

Schiffman asked the subcommittees to provide additional funds for states to conduct the cleanup efforts but he refused to say how much would be needed. "I need whatever I can get," he said. "I'll spend whatever I have."

He described New Jersey's water pollution statute as the best in the nation. But he said, "Our resources are small. We have to act. Time is short."

Opening the hearings, Florio said, "I am afraid we may face a water shortage crisis one day in the future as serious or more serious than the current energy crisis. Pure water is our most important natural resource. And, unlike the energy situation, where we can substitute coal for oil or develop new sources of energy such as solar

(Please turn to Page 4)

Roxbury

# EPA cites Jersey in its water warning

*Spring  
Stirt  
Roxbury  
Benning  
Rockaway*

(Continued from Page One)

the solvents during a five- to 10-year period.

He said the company is undertaking a groundwater abatement program while the township has purchased a new well and soon will have a fourth in operation. The contaminated well, he said, may take up to 10 years to decontaminate.

According to Dr. Marwan Sadat, assistant director for water quality management in the New Jersey Department of Environmental Protection (DEP), there are "120 active ground-

water pollution cases on our books right now."

Many of these cases stem from improper dumping of hazardous wastes. New Jersey has discovered more than 230 toxic waste dump sites throughout the state.

Sadat said groundwater pollution has been discovered in Jackson Township, Plumsted Township, Rocky Hill, Perth Amboy and in virtually every area of New Jersey.

The state official, however, said New

Jersey is well on its way toward dealing with the problem, which he described as "very serious."

"About 14 months ago New Jersey articulated the strategy that EPA is now talking about," said Sadat.

"Prevention, that is the key word," he added. "You have to stop it before it happens and you have to develop a mechanism to control it."

Sadat said the state will adopt regulations by February under the New Jersey Water Pollution Control Act which will identify potential groundwater pollutants, set standards for discharges into the groundwater and set up a permit process for landfills and companies that discharge dangerous pollutants.

He said this program should help to deal effectively with the future groundwater problem while other programs will be aimed at cleaning up sites that are causing contamination.

The EPA said it wants the other states to come up with similar programs for preventing groundwater pollution. The EPA also suggested that states classify groundwater supplies.

"The classification process should help sort out the high priority groundwater areas for high levels of protection and for first attention and investment,

and assist in identifying those areas least environmentally sensitive for siting of future waste disposal facilities or other potentially polluting activities," said Beck.

Sadat said New Jersey is now classifying its groundwater supplies.

According to the Beck, once an aquifer is polluted, it cannot clean itself as a river can. He said pollution of groundwater is "practically irreversible."

The official said some of the major groundwater bodies are the Potomac group beneath Delaware, Maryland, Virginia and North Carolina; the Magothy aquifer beneath New Jersey and other Northeastern states; the Floridian beneath Florida; the Ogallala below most of the Plains States as far south as New Mexico and others underlying the Southeast from South Carolina to Texas.

Beck noted that the country now uses four times as much groundwater as three decades ago and is relying heavily on these acquifers.

He also listed a number of states that have been experiencing problems, including Massachusetts, where 20 communities have discovered their public water supplies are contaminated. Beck said 16 incidents have occurred in Connecticut, 25 in Pennsylvania, 22 in New York.

## EPA cites Jersey town in warning on water

By ROBERT COHEN  
Star-Ledger Washington Bureau

WASHINGTON — The Environmental Protection Agency (EPA), citing the experience in South Brunswick Township as an example of the nation's groundwater contamination problem, said yesterday it is essential for the states and the federal government to prevent further pollution of the country's drinking water supplies.

The EPA, in a policy statement, said it must be a "national goal to assess, protect and enhance the quality of groundwaters to levels necessary for current and projected future uses and for the protection of the public health and significant ecological systems."

The agency said a national strategy must be carried out in cooperation with the states and local governments to prevent future groundwater contamination rather than being faced with constantly trying to clean up the pollution after it happens.

"The problem is national in scope," said Eckardt C. Beck, assistant administrator for water and waste management. "Approximately half of the country's population relies on groundwater for its drinking water. And yet protection of those water sources has been inadequate, in large measure because until recently conventional wisdom believed that nature protected our underground water much more than it actually does."

As an example, Beck cited South Brunswick Township, a community of about 18,000 where one of the three production wells had to be shut down in 1978 because it was contaminated with solvents suspected of being carcinogens.

According to Robert Harris, the township health officer, the contamination was caused by an International Business Machines (IBM) facility, which discharged between 500 and 1,000 gallons of

(Please turn to Page 6)

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ASSEMBLY COMMITTEE SUBSTITUTE FOR  
ASSEMBLY, No. 280

STATE OF NEW JERSEY

ADOPTED JULY 1, 1982

AN ACT *\*[to amend and supplement the "Safe Drinking Water Act," approved September 17, 1977 (P. L. 1977, c. 224, C. 58:12A-1 et seq.)]\** *\*concerning the periodic testing of public water supplies, establishing penalties for noncompliance, amending P. L. 1940, c. 5 and amending and supplementing P. L. 1977, c. 224 (C. 58:12A-1 et seq.),\** and making an appropriation.

1 BE IT ENACTED by the Senate and General Assembly of the State  
2 of New Jersey:

1 1. (New section) The owner or operator of each public *\*com-*  
2 *munity\** water system shall undertake the periodic testing of the  
3 water provided to customers by the system in order to determine  
4 the presence of hazardous contaminants, as identified pursuant to  
5 section 2 of this amendatory and supplementary act. *\*A schedule*  
6 *for the periodic testing shall be established by the commissioner*  
7 *within six months of the effective date of this amendatory and*  
8 *supplementary act and pursuant to the "Administrative Procedure*  
9 *Act," P. L. 1968, c. 410 (C. 52:14B-1 et seq.).\** The tests shall be  
10 conducted during periods of *\*[peak]\** *\*representative\** demand  
11 by a laboratory certified by the department. The initial tests for  
12 the substances identified in subsection a. of section 2 of this  
13 amendatory and supplementary act shall be administered within  
14 *\*[six]\** *\*12\** months of the effective date of this amendatory and  
15 supplementary act and *\*[semiannually]\** *\*semiannually\** there-  
16 after *\*pursuant to the schedule established by the commissioner\**,  
17 unless the commissioner shall determine, on a case-by-case basis,  
18 that greater *\*or lesser\** frequency of testing is necessary or suffi-  
19 cient to ensure the public health and safety. The tests for the sub-  
20 stances for which maximum contaminant levels will be established

EXPLANATION—Matter enclosed in bold-faced brackets [thus] in the above bill  
is not enacted and is intended to be omitted in the law.

Matter printed in italics *that is new matter.*

Matter enclosed in asterisks or stars has been adopted as follows:

Senate committee amendments adopted January 20, 1983.

21 pursuant to subsection b. of section 2 of this amendatory and sup-  
 22 plementary act shall be conducted within one year of the effective  
 23 date of this act and annually thereafter, unless the commissioner  
 24 shall determine, on a case-by-case basis, that greater *"or lesser"*  
 25 frequency of testing is necessary to ensure the public health and  
 26 safety.

1 2. (New section) a. The commissioner, after considering the rec-  
 2 ommendations of the Drinking Water Quality Institute created pur-  
 3 suant to section 10 of this amendatory and supplementary act, shall,  
 4 within 18 months of the effective date of this amendatory and sup-  
 5 plementary act and pursuant to the "Administrative Procedure  
 6 Act," P. L. 1968, c. 410 (C. 52:14B-1 et seq.), adopt rules and regula-  
 7 tions which establish a maximum contaminant level for each of the  
 8 following organic compounds;

9 Trichloroethylene  
 10 Tetrachlorethylene  
 11 Carbon Tetrachloride  
 12 1,1,1, Trichloroethane  
 13 1,2 Dichloroethane  
 14 Vinyl Chloride  
 15 Methylene Chloride  
 16 Benzene  
 17 Chlorobenzene  
 18 Dichlorobenzene (s)  
 19 Trichlorobenzene (s)  
 20 1,1—dichloroethylene  
 21 \***[cris]**\* *"cis"*—1,2-dichloroethylene  
 22 \***[tans]**\* *"trans"*—1,2-dichloroethylene  
 23 polychlorinated biphenyls (PCBs)  
 23A *"xylences"*  
 23B *ethylene glycol*  
 23C *chlordane*  
 23D *kerosene*  
 23E *formaldehyde*  
 23F *n-hexane*  
 23G *methyl ethyl ketone\**

24 b. The commissioner, after considering the recommendations of  
 25 the Drinking Water Quality Institute, shall, within two years of the  
 26 effective date of this amendatory and supplementary act and pur-  
 27 suant to the "Administrative Procedure Act," P. L. 1968, c. 410 (C.  
 28 52:14B1 et seq.), adopt rules and regulations which develop, within  
 29 the limits of medical, scientific, and technological feasibility, a list  
 30 of those pesticides and related compounds, metals, and base/neutral

31 extractable organic compounds and acid extractable organic com-  
 32 pounds *\*which he believes may be found in drinking water and\** the  
 33 presence of which above maximum contaminants levels in drinking  
 33A water, upon ingestion or assimilation, *\*[will] \*may\**, on the basis  
 34 of the best information available to the commissioner, cause death,  
 35 disease, behavioral abnormalities, cancer, genetic mutations, physi-  
 36 ological malfunction (including malfunctions in reproduction), or  
 37 physical deformity; and establish, within the limits of medical  
 38 scientific and technological feasibility, maximum contaminant levels  
 39 for each chemical or chemical compound on the list which, with re-  
 40 spect to carcinogens, permit cancer in no more than one in one  
 41 million persons ingesting that chemical for a lifetime, and, with re-  
 42 spect to other chemicals or chemical compounds on the list *\*and*  
 43 *those carcinogens resulting from compounds with public health*  
 44 *benefits\**, eliminate within the limits of practicability and feasibility  
 45 all adverse physiological effects which may result from ingestion:  
 46 provided, however, that in no case shall the standard adopted by  
 47 the commissioner for any chemical or chemical compound on the  
 48 list, be less stringent than that established for the same chemical or  
 49 chemical compound by the United States Environmental Protection  
 50 Agency pursuant to the "Safe Drinking Water Act," Pub. L. 93-523  
 50A (42 U. S. C. §§ 300f et seq.), or any other federal agency.

51 No maximum contaminant level need be established for any sub-  
 52 stance identified pursuant to subsection a. or b. of this section until  
 53 the presence of the substance in drinking water is established by any  
 54 test required by this act.

1 3. (New section) *\*[Every certified laboratory conducting a pota-*  
 2 *bility test required by this amendatory and supplementary act, and*  
 3 *the] \*The\* water purveyor whose water was submitted for*  
 4 *\*[the] \*a potability\* test \*required by this amendatory and*  
 5 *supplementary act\**, shall forward to the department a copy of all  
 6 test results. *\*The certified laboratory conducting the potability test*  
 7 *may, upon written approval by the department, submit the test*  
 8 *results on behalf of the water purveyor.\** The department is  
 9 authorized to conduct spot checks to assure compliance with this  
 10 amendatory and supplementary act and the accuracy and integrity  
 11 of the reported results.

1 4. (New section) a. The owner or operator of each public *\*com-*  
 2 *munity\** water system which has been determined to contain a  
 3 chemical or chemical compound identified pursuant to section 2 of  
 4 this amendatory and supplementary act at a level exceeding the  
 5 maximum contaminant level shall, within a year *\*after receipt\** of  
 6 the test result, take any action required to bring the water into  
 7 *\*[full]\** compliance with the standard; provided, however, that the

8 commissioner may require compliance as promptly as necessary to  
 9 abate an immediate public health threat, or extend the period of  
 10 compliance if new construction is required therefor; provided,  
 11 further however, that the extension shall be granted only upon a  
 12 determination by the commissioner, after a public hearing, that  
 12a the extension will not pose an imminent threat to public health.

13 b. In the event that the owner or operator of a public water sys-  
 14 tem fails to bring the water supplied to consumers into compliance  
 15 pursuant to subsection a. of this section, the commissioner **\*[shall]\***  
 16 **\*may\*** enjoin the water purveyor from continuing to supply water  
 17 to the public, and establish, in conjunction with the local board of  
 18 health or county health department, or other appropriate agency a  
 19 program to bring the water supply into compliance or provide an  
 20 alternate potable water supply for the customers of the system.

1 5. (New section) **\*[a.]\*** Local health departments, in cooperation  
 2 with the department, shall develop **\*voluntary\*** procedures **\*for the**  
 3 **testing of water\*** for homeowners whose principal source of potable  
 4 water is a well **\*to be paid by the homeowner\***, or who are served by  
 5 a **\*nonpublic\*** water system **\*[with fewer than 15 service connec-**  
 5a **tions or fewer than 25 customers, to have their water tested semi-**  
 5b **annually]\*** **\*or a public water system which is not a public com-**  
 5c **munity water system to be paid for by the owner or operator**  
 5d **thereof\*.**

6 **\*[h. Every owner or operator of a nonpublic water system shall,**  
 7 **at least annually, notify the customers of that system that the water**  
 8 **supplied is not tested for contamination by hazardous pollutants**  
 9 **which may have adverse health effects, and informing them of the**  
 10 **availability of the program established by the department or their**  
 11 **local unit of government to provide this testing.]\***

1 6. (New section) **\*[The]\*** **\*Within 90 days of the effective date**  
 2 **of this amendatory and supplementary act, the** Board of Public  
 3 Utilities shall issue appropriate orders increasing current tariffs  
 4 established pursuant to law for the supplying of water service by  
 5 an amount equal to the total increase in the relevant water supply  
 6 service costs resulting from the testing of water required by the  
 7 provisions of this amendatory and supplementary act and the tax  
 8 levied pursuant to section 11 of this amendatory and supplementary  
 9 act. In issuing this order, the board shall not be bound to find a  
 10 rate base under the provisions of section 31 of P. L. 1962, c. 198  
 11 (C. 48:2-21.2).

1 7. (New section) Any additional expenditures for the testing of  
 2 water supplies pursuant to P. L. ..., c. ... (C. ...) (now  
 3 pending before the Legislature as Assembly Committee Substitute

4 for Assembly Bill 280, of 1982) made by any county or municipality  
 5 shall, for the purpose of P. L. 1976, c. 68 (C. 40A:4-45.1 et seq.),  
 6 be considered an expenditure mandated by State law.

1 8. (New section) When the department orders a municipality,  
 2 county, or agency thereof which operates a public water supply  
 3 system to install treatment techniques *\*or other apparatus or*  
 4 *equipment\** for the purpose of achieving a maximum contaminant  
 5 level established by the department, the Division of Local Govern-  
 6 ment Services in the Department of Community Affairs shall, when  
 7 reviewing the annual budget of the municipality, county or agency  
 8 thereof, certify that an amount sufficient to cover the cost of the  
 9 treatment technique specified in the order issued to the municipality,  
 10 county, or agency thereof is included in the annual budget.

1 9. (New section) The commissioner shall make an annual report  
 2 to the Legislature and the Governor and to the Chairmen of the  
 3 Senate Energy and Environment Committee and General Assembly  
 4 Agriculture and Environment Committee, or their successors, which  
 5 shall summarize and analyze the results and effects of the testing  
 6 program mandated by this amendatory and supplementary act,  
 7 and make any recommendations concerning the "Safe Drinking  
 8 Water Act" deemed appropriate. This report shall be due on  
 9 October 1, 1984 and annually thereafter.

1 10. (New section) a. There is established in the department the  
 2 Drinking Water Quality Institute. The institute shall comprise  
 3 ~~\*[13]\*~~ *\*15\** members as follows: The Commissioner of Environ-  
 4 mental Protection, the Commissioner of Health, and the Chairman  
 5 of the Water Supply Advisory Council *\*the Director of the Divi-*  
 6 *sion of Water Resources in the department, the Director of the*  
 7 *\*\*[Division of Cancer and Toxic Substances]\*\** *\*\*Office of Science*  
 8 *and\*\* Research in the department and the Director of the Office*  
 9 *of Occupational and Environmental Health in the Department of*  
 10 *Health,\** all of whom shall serve ex officio; and ~~\*[ten]\*~~ *\*nine\**  
 11 appointed members, ~~\*[one]\*~~ *\*three\** of whom shall represent the  
 12 ~~\*[major]\*~~ *\*water purveyors* ~~\*[to be appointed by the Governor,~~  
 13 ~~and]\*~~ *\*at least one of which has as its primary water source an*  
 14 *underground source;* ~~\*three of whom shall represent the~~ *\*academic\**  
 15 *scientific community, \*three of whom shall represent the academic*  
 16 *community]\**, and three of whom *, having backgrounds in environ-*  
 17 *mental health issues\** shall represent the ~~\*[medical profession]\*~~  
 18 *\*public\**, *\*with\** one of each *\*group of three set forth hereinbefore\**  
 19 to be appointed by the Governor, the President of the Senate and  
 20 the Speaker of the General Assembly. Of the members first ap-  
 20a pointed, ~~\*[four]\*~~ *\*three\** shall serve for terms of three years.

20a three for terms of two years and three for terms of one year. There-  
 20c after, all terms shall be for three years. Each member shall serve  
 20b for the term of his appointment and until his successors shall have  
 20e been appointed and qualified. Any vacancy shall be filled in the  
 20r same manner as the original appointment for the unexpired term  
 20a only. Any member of the institute may be removed by the appoint-  
 20i ing authority, for cause, after public hearing.

21 b. Members of the institute shall serve without compensation,  
 22 but the institute may, within the limits of funds appropriated or  
 23 otherwise made available to it for such purposes, reimburse its  
 24 members for necessary expenses incurred in the discharge of  
 25 their official duties.

26 c. The institute shall meet at such times and places as may be  
 27 determined by its chairman, who shall be designated by the Gover-  
 28 nor. A majority of the membership of the institute shall constitute a  
 29 quorum for the transaction of business. Action may be taken and  
 30 motions and resolutions adopted by the institute at any meeting  
 31 by the affirmative vote of a majority of the full membership of  
 32 the institute.

33 d. The institute shall make recommendations for the implementa-  
 34 tion of the Drinking Water Quality Program by the department.  
 35 These recommendations shall consist of:

36 (1) The development of a list of contaminants for which testing  
 37 shall be required;

38 (2) The development of maximum contaminant levels;

39 *\*(3) The development of appropriate testing techniques to*  
 40 *measure maximum contaminant levels;*

41 *(4) The development of testing frequencies;\**

42 *\*[(3)]\* \*(5)\* The review of all activities undertaken pursuant to*  
 43 *the "Safe Drinking Water Act" and any amendments or supple-*  
 44 *ments thereto.*

45 *\*e. The Drinking Water Quality Institute shall have the au-*  
 46 *thority to call to its assistance and avail itself of the services of the*  
 47 *employees of any State, county or municipal department, board,*  
 48 *commission or agency that may be required and made available*  
 49 *for such purposes.\**

1 11. (New section) a. There is levied upon the owner or operator  
 2 of every public *community* water system a water tax of  
 3 *\*[\$0.0025]\* \*\$0.01\** per 1,000 gallons of water delivered to a con-  
 4 sumer *\*not including water purchased for resale\** on or after  
 4A *\*[January 1, 1983]\* \*first day of the first full fiscal quarter follow-*  
 4B *ing enactment of this amendatory and supplementary act, and*  
 4C *quarterly thereafter\*.*

5 b. (1) The owner or operator of every public "community" water  
6 system shall, on or before the 20th day of the month following the  
7 close of each tax period, render a return under oath to the Director  
8 of the Division of Taxation on such form as may be prescribed by  
9 the director indicating the number of gallons of water delivered to a  
10 consumer and at said time owner or operator shall pay the full  
11 amount of tax due.

12 (2) The owner or operator of every public "community" water  
13 system shall, within 20 days register with the director on forms  
14 prescribed by him.

15 c. If a return required by this amendatory and supplementary  
16 act is not filed, or if a return when filed is incorrect or insufficient  
17 in the opinion of the director, the amount of tax due shall be deter-  
18 mined by the director from such information as may be available.  
19 Notice of such determination shall be given to the taxpayer liable  
20 for the payment of the tax. Such determination shall finally and  
21 irrevocably fix the tax unless the person against whom it is assessed,  
22 within 30 days after receiving notice of such determination, shall  
23 apply to the director for a hearing, or unless the director on his  
24 own motion shall redetermine the same. After such hearing the  
25 director shall give notice of his determination to the person to whom  
26 the tax is assessed.

27 d. Any taxpayer who shall fail to file his return when due or  
28 to pay any tax when the same becomes due, as herein provided, shall  
29 be subject to such penalties and interest as provided in the "State  
30 tax uniform procedure law," subtitle 9 of Title 54 of the Revised  
31 Statutes. If the Division of Taxation determines that the failure  
32 to comply with any provision of this section was excusable under  
33 the circumstances, it may remit such part or all of the penalty as  
34 shall be appropriate under such circumstances.

35 e. (1) Any person failing to file a return, failing to pay the tax,  
36 or filing or causing to be filed, or making or causing to be made,  
37 or giving or causing to be given any return, certificate, affidavit,  
38 representation, information, testimony or statement required or  
39 authorized by this amendatory and supplementary act, or rules or  
40 regulations adopted hereunder which is willfully false, or failing  
41 to keep any records required by this amendatory and supplementary  
42 act or rules and regulations adopted hereunder, shall, in addition  
43 to any other penalties herein or elsewhere prescribed, be guilty  
44 of a crime of the fourth degree.

45 (2) The certificate of the director to the effect that a tax has  
46 not been paid, that a return has not been filed, that information  
47 has not been supplied or that inaccurate information has been sup-

48 plied pursuant to the provisions of this amendatory and supple-  
49 mentary act or rules or regulations adopted hereunder shall be  
50 presumptive evidence thereof.

51 f. In addition to the other powers granted to the director in  
52 this section, he is authorized:

53 (1) To delegate to any officer or employee of his division such of  
54 his powers and duties as he may deem necessary to carry out effi-  
55 ciently the provisions of this section, and the person to whom such  
56 power has been delegated shall possess and may exercise all of  
57 said powers and perform all of the duties delegated by the director;

58 (2) To prescribe and distribute all necessary forms for the im-  
59 plementation of this section.

60 g. The tax imposed by this section shall be governed in all re-  
61 spects by the provisions of the "State tax uniform procedure law,"  
62 subtitle 9 of Title 54 of the Revised Statutes, except only to the  
63 extent that a specific provision of this section may be in conflict  
64 therewith.

65 h. The "Safe Drinking Water Fund" (hereinafter referred to as  
66 the "fund") is established as a nonlapsing, revolving fund. The  
67 fund shall be administered by the department, and shall be credited  
68 with all tax revenue collected by the division pursuant to this sec-  
69 tion. Interest received on moneys in the fund shall be credited to  
70 the fund. Moneys in the fund shall be appropriated to the depart-  
71 ment for all costs associated with the department's administration  
72 of "[this amendatory and supplementary act]" *all aspects of the*  
73 *programs set forth in the "Safe Drinking Water Act," P. L. 1977,*  
74 *c. 224 (C. 58:12A-1 et seq.) in the annual budget request of the*  
75 *department".*

1 12. Section 2 of P. L. 1977, c. 224 (C. 58:12A-2) is amended to  
2 read as follows:

3 2. The Legislature finds and declares that it is a paramount  
4 policy of the State to protect the purity of the water we drink and  
5 that the Department of Environmental Protection shall be em-  
6 powered to promulgate and enforce regulations to purify drinking  
7 water by filtration or such other treatment method as it may  
8 require, prior to the distribution of said drinking water to the  
9 public; that the maintenance of high-quality potable water is  
10 essential in order to safeguard the health and welfare of the people  
11 of the State; that the Federal Safe Drinking Water Act provides  
12 a comprehensive framework, *at a minimum, for establishing stand-*  
13 *ards, providing technical assistance, and for regulating the collec-*  
14 *tion, treatment, monitoring, storage, and distribution of potable*  
15 *water, and for consolidating and improving existing State law*

16 regarding potable water; and that it is in the best interests of the  
17 people of the State for the State, through its Department of En-  
18 vironmental Protection, to assume primary enforcement responsi-  
19 bility under the Federal Safe Drinking Water Act.

1 \*13. Section 3 of P. L. 1977, c. 224 (C. 58:12A-3) is amended to  
2 read as follows:

3 3. As used in this act[, unless the context clearly requires a differ-  
4 ent meaning, the following words and terms shall have the follow-  
5 ing meanings]:

6 a. "Administrator" means the Administrator of the United  
7 States Environmental Protection Agency or his authorized repre-  
8 sentative;

9 b. "Contaminant" means any physical, chemical, biological or  
10 radiological substance or matter in water;

11 c. "Commissioner" means the Commissioner of Environmental  
12 Protection or his designated representative;

13 d. "County" means any county or any agency or instrumentality  
14 of one or more thereof;

15 e. "Department" means the Department of Environmental  
16 Protection;

17 f. "Federal act" means the Safe Drinking Water Act, P. L.  
18 93-523, 42 U. S. C. § 300 et al.;

19 g. "Federal agency" means any department, agency, or instru-  
20 mentality of the United States;

21 h. "Municipality" means any city, town, township, borough or  
22 village or any agency or instrumentality of one or more thereof;

23 i. "National primary drinking water regulations" means primary  
24 drinking water regulations promulgated by the administrator pur-  
25 suant to the federal act;

26 j. "Person" means any individual, corporation, company, firm,  
27 association, partnership, municipality, county, State agency or  
28 federal agency;

29 k. "Primary drinking water regulation" means a regulation  
30 which:

31 (1) Applies at a minimum to public water systems;

32 (2) Specifies contaminants which, in the judgment of the com-  
33 missioner, may have any adverse effect on the health of persons;

34 (3) Specifies for each such contaminant either (a) a maximum  
35 contaminant level if, in the judgment of the commissioner, it is  
36 economically and technologically feasible to ascertain the level of  
37 such contaminant in water in public water systems, or (b) if, in  
38 the judgment of the commissioner, it is not economically or tech-  
39 nologically feasible to ascertain the level of such contaminant, each

40 treatment technique known to the commissioner which leads to a  
41 reduction in the level of such contaminant sufficient to satisfy the  
42 requirements of section 4 of this act;

43 (4) Contains criteria and procedures to assure a supply of  
44 drinking water which dependably complies with such maximum  
45 contaminant levels, including quality control, sampling frequencies,  
46 and testing procedures to insure compliance with such levels and to  
47 insure proper operation and maintenance of the system, and re-  
48 quirements as to: (a) the minimum quality of water which may be  
49 taken into the system, and (b) siting for new facilities for public  
50 water systems;

51 l. "Public water system" means a system for the provision to the  
52 public of piped water for human consumption, if such system has  
53 at least 15 service connections or regularly serves at least 25 in-  
54 dividuals. Such term includes: (1) any collection, treatment,  
55 storage and distribution facilities under control of the operator of  
56 such system and used primarily in connection with such system,  
57 and (2) any collection or pre-treatment storage facilities not under  
58 such control which are used primarily in connection with such  
59 system; "*Public community water system*" means a public water  
60 system which serves at least 15 service connections used by year-  
61 round residents or regularly serves at least 25 year-round residents;

62 m. "State agency" means any department, agency or instrumen-  
63 tality of this State or of this State and any other state or states;

64 n. "Supplier of water" means any person who owns or operates  
65 a public water system;

66 o. "Maximum contaminant level" means the maximum per-  
67 missible level of a contaminant in water which is delivered to the  
68 free-flowing outlet of the ultimate user of a public water system or  
69 other water system to which State primary drinking water regula-  
70 tions apply, except in the case of turbidity where the maximum  
71 permissible level is measured at the point of entry to the distribu-  
72 tion system. Contaminants added to the water under circumstances  
73 controlled by the user, except those resulting from corrosion of  
74 piping and plumbing caused by water quality, are excluded from  
75 this definition;

76 p. "Nonpublic water system" means a water system that is not  
77 a public water system;

78 q. "Sanitary survey" means an on-site review of the water  
79 source, facilities, equipment, operation and maintenance of a public  
80 or nonpublic water system for the purpose of evaluating the  
81 adequacy of the source, facilities, equipment, operation and mainte-  
82 nance for producing and distributing safe drinking water with  
83 adequate pressure and volume;

84 r. "Secondary drinking water regulation" means a regulation  
85 applying to one or more water systems, and which specifies the  
86 maximum contaminant levels that are required to protect the public  
87 welfare; such regulations may apply to any contaminant in drink-  
88 ing water (1) which may adversely affect the taste, odor, or appear-  
89 ance of such water and consequently may cause a substantial  
90 number of persons served by such water systems to discontinue  
91 their use, or (2) which may otherwise adversely affect the public  
92 welfare;

93 s. "Water system" means a system for providing potable water  
94 to any person.\*

1 \* [13.] \* 11. Section 4 of P. L. 1977, c. 224 (C. 58:12A-4) is  
2 amended to read as follows:

3 4. a. The commissioner shall prepare, promulgate and enforce  
4 and may amend or repeal (1) State primary drinking water  
5 regulations that at any given time shall be no less stringent than  
6 national regulations in effect at that time; (2) State secondary  
7 drinking water regulations; and (3) other regulations to protect  
8 potable waters, regulate public and nonpublic water systems, and  
9 carry out the intent of this act in any one or more areas of the  
10 State requiring a particular safe drinking water program.

11 b. Subject to section 5 of this act, State primary drinking water  
12 regulations shall apply to each public water system in the State,  
13 except that such regulations shall not apply to a public water  
14 system:

15 (1) Which consists only of distribution and storage facilities  
16 and which does not have any collection and treatment facilities;

17 (2) Which obtains all of its water from, but is not owned or  
18 operated by, a public water system to which such regulations apply;

19 (3) Which does not sell water to any person; and

20 (4) Which does not provide water for potable purposes to any  
21 carrier which conveys passengers in interstate commerce.

22 c. The commissioner shall adopt and implement adequate pro-  
23 cedures, promulgate appropriate rules and regulations, and issue  
24 such orders as are necessary for the enforcement of State primary  
25 drinking water regulations and for the provision of potable water  
26 of adequate volume and pressure; such regulations and procedures  
27 to include but not be limited to:

28 (1) Monitoring and inspection procedures;

29 (2) Maintenance of an inventory of public water systems in the  
30 State;

31 (3) A systematic program for conducting sanitary surveys of  
32 public water systems throughout the State or in a part thereof

33 whenever the commissioner determines that such surveys are  
34 necessary or advisable;

35 (4) The establishment and maintenance of a program for the  
36 certification of laboratories conducting analytical measurements of  
37 drinking water contaminants specified in the State primary and  
38 secondary drinking water regulations; and the assurance of the  
39 availability to the department of laboratory facilities certified by  
40 the administrator and capable of performing analytic measure-  
41 ments of all contaminants specified in the State primary and secon-  
42 dary drinking water regulations;

43-44 (5) The establishment and maintenance of [a program] *pro-*  
45 *grams* concerning plans and specifications for the design, [and]  
46 construction and operation of [new or substantially modified  
47 public] water systems, which [program] *programs* (a) [requires]  
48 require all such plans and specifications[, or either,] to be first  
49 approved by the department before any work thereunder shall be  
50 commenced; [and] (b) assures that all *water systems* [such proj-  
51 ects, upon completion,] will comply with any rules and regulations  
52 of the department [concerning their construction]; and (c) assures  
53 and certifies [will be capable of] compliance with the State pri-  
54 mary drinking water regulations or such requirements of the  
55 State secondary drinking water regulations as the commissioner  
56 deems applicable, and will deliver water with sufficient *quality,*  
56a volume and pressure to the users of such systems.

57 d. The commissioner shall keep such records and make such  
58 reports with respect to his activities under subsections a. and c. of  
59 this section as may be required by regulations established by the  
60 administrator pursuant to the federal act;

61 e. The commissioner may require any public water system to  
62 install, use, and maintain such monitoring equipment, and methods,  
63 to perform such sampling, to maintain and retain such records of  
64 information from monitoring and sampling activities, to submit  
65 such reports of monitoring and sampling results, and to provide  
66 such other information as he may require to assist in the establish-  
67 ment of regulations under this act, or to determine compliance or  
68 noncompliance with this act or with regulations promulgated pur-  
69 suant to this act;

70 f. The commissioner shall have the right to enter any premise  
71 upon presentation of appropriate credentials during regular  
72 business hours, in order to test, inspect or sample any feature of  
73 a public water system and in order to inspect, copy or photograph  
74 any monitoring equipment or records required to be kept under  
75 provisions of this act.

76 g. The department shall further transmit copies of all rules and  
 77 regulations proposed pursuant to this act to the Senate and  
 78 General Assembly on a day on which both Houses shall be meeting  
 79 in the course of a regular or special session. The provisions of the  
 80 aforesaid "Administrative Procedure Act" or any other law to the  
 81 contrary notwithstanding, no such rule or regulation shall take  
 82 effect if, within 60 days of the date of its transmittal to the Senate  
 83 and General Assembly, the Legislature shall pass a concurrent  
 84 resolution stating in substance that the Legislature does not favor  
 85 such proposed rule or regulation.

1 \*~~[14.]~~\* \*15.\* Section 6 of P. L. 1977, c. 224 (C. 58:12A-6) is  
 2 amended to read as follows:

3 6. The commissioner, upon receipt of information that a contami-  
 4 nant which is present in or is likely to enter a [public] water  
 5 system may present an imminent and substantial endangerment to  
 6 the health of persons, may take such actions as he may deem  
 7 necessary in order to protect the health of such persons. Such  
 8 actions may include, but shall not be limited to: a. issuing such  
 9 orders as may be necessary to protect the health of persons who  
 10 are or may be users of such system, including travelers; and, b.  
 11 commencing a civil action for appropriate relief, including a  
 12 restraining order or permanent or temporary injunction.

1 \*~~[15.]~~\* \*16.\* Section 9 of P. L. 1977, c. 224 (C. 58:12A-9) is  
 2 amended to read as follows:

3 9. The commissioner is authorized [and empowered] in order to  
 4 carry out the provisions and purposes of this act, to:

- 5 a. Perform any and all acts necessary to carry out the purposes  
 6 and requirements of this act relating to the adoption and enforce-  
 7 ment of any regulations authorized pursuant to this act;
- 8 b. Administer and enforce the provisions of this act and all rules,  
 9 regulations, and orders promulgated, issued, or effective here-  
 10 under;
- 11 c. Enter into agreements, contracts, or cooperative arrange-  
 12 ments, under such terms and conditions as he deems appropriate  
 13 \*~~[with]~~\* *the Department of Health and any* other state  
 13a \*~~[agencies]~~\* *agency*, federal agencies, municipalities, counties,  
 14 educational institutions, municipal or county health departments,  
 15 or other organizations or individuals;
- 16 d. Receive financial and technical assistance from the federal  
 17 government and other public or private agencies;
- 18 e. Participate in related programs of the federal government,  
 19 other states, interstate agencies, or other public or private  
 20 agencies or organizations;

- 21 f. Establish adequate fiscal controls and accounting procedures  
22 to assure proper disbursement of and accounting for funds appro-  
23 priated or otherwise provided for the purpose of carrying out the  
24 provisions of this act;
- 25 g. Delegate those responsibilities and duties as deemed appro-  
26 priate for the purpose of administering the requirements of this  
27 act;
- 28 h. Establish and collect fees, in accordance with a fee schedule  
29 adopted as a rule or regulation, for conducting inspections and  
30 laboratory analyses and certifications as may be necessary;
- 31 i. Prescribe such regulations and issue such orders as are  
32 necessary or appropriate to carry out his functions under this  
33 act;
- 34 j. *Conduct research, investigations, experiments, demonstrations,*  
35 *surveys, and studies relating to the causes, effects, extent, pre-*  
36 *vention, and control of contaminants in drinking water.*
- 37 k. *Provide for the education of the public as to the causes, effects,*  
38 *extent, prevention, and control of contaminants in drinking water.*
- 39 l. *Collect and make available, through publications, a data man-*  
40 *agement system and other appropriate means, the results of and*  
41 *other information, including appropriate recommendations by the*  
42 *institute in connection therewith, pertaining to such research and*  
43 *other activities;*
- 44 m. *Cooperate with and contract with other public and private*  
45 *agencies, institutions, and organizations and with any industries*  
46 *involved, in the preparation and conduct of such research and other*  
47 *activities;*
- 48 n. *Review, treatment methods used for removal of contaminants*  
49 *from drinking water;*
- 50 o. *Provide for the education and training of departmental per-*  
51 *sonnel in those areas relating to the causes, effects, extent, pre-*  
52 *vention and control of contaminants in drinking water\*[,] \* \*;*
- 53 \*p. *Establish and collect reasonable fees, in accordance with a*  
54 *fee schedule adopted as a rule or regulation for the estimated costs*  
55 *of administering and enforcing the programs pursuant to this*  
56 *amendatory and supplementary act, to the extent that the costs are*  
57 *not available from the fund, including but not limited to conducting*  
58 *inspections, laboratory analyses and certifications as may be*  
59 *necessary;*
- 60 q. *The authority to collect fees pursuant to this section may be*  
61 *delegated by the commissioner to the appropriate county agency*  
62 *consistent with a delegation, pursuant to the provisions of the*

63 "County Environmental Health Act," P. L. 1977, c. 413 (C.  
64 26:3A2-21 et seq.), of any authority to administer the provisions  
65 of this act."

1 "[16.]" "17." Section 10 of P. L. 1977, c. 224 (C. 58:12A-10) is  
2 amended to read as follows:

3 10. a. If any person violates any of the provisions of this act or  
4 any rule, regulation or order promulgated or issued pursuant to the  
5 provisions of this act, the department may institute a civil action  
6 in a court of competent jurisdiction for injunctive "or any other  
7 appropriate" relief to prohibit and prevent such violation or viola-  
8 tions and the said court may proceed in the action in a summary  
8a manner.

9 b. Any person who violates the provisions of this act or any  
10 rule, regulation or order promulgated pursuant to this act shall be  
11 liable to a civil administrative penalty of not "[more than \$5,000.00  
12 for each offense or penalty of not [more than \$5,000.00 for each  
13 offense] less than \$1,000.00 nor]" "more than \$5,000.00 for the first  
14 offense, not less than \$5,000.00 nor more than \$10,000.00 for the  
15 second offense, and up to \$25,000.00 for the third and each subse-  
16 quent offense" [, to be collected in a civil action by a summary pro-  
17 ceeding under "the penalty enforcement law" (N. J. S. 2A:58-1  
18 et seq.), or in any case before a court of competent jurisdiction  
19 wherein injunctive relief had been requested. The Superior Court[,  
20 County Court] and county district court shall have jurisdiction  
21 to enforce said "penalty enforcement law" ]. If the violation is of a  
22 continuing nature, each day during which it continues "subsequent  
23 to receipt of an order to cease the violation" shall constitute an  
24 additional, separate and distinct offense. "No civil administrative  
25 penalty shall be levied except subsequent to the notification of the  
26 violator by certified mail or personal service. The notice shall  
27 include a reference to the section of the statute, regulation, order  
28 or permit condition violated; a concise statement of the facts  
29 alleged to constitute the violation; a statement of the amount of the  
30 civil penalties to be imposed; and a statement of the violator's  
31 right to a hearing. The violator shall have 20 days from receipt of  
32 the notice within which to deliver to the commissioner a written  
33 request for a hearing. Subsequent to the hearing and upon a find-  
34 ing that a violation has occurred, the commissioner may issue a  
35 final order after assessing the amount of the fine specified in the  
36 notice. If no hearing is requested, the notice shall become a final  
37 order upon the expiration of the 20 day period. Payment of the  
38 penalty is due when a final order is issued or when the notice be-  
39 comes a final order. The authority to levy a civil administrative

40 penalty is in addition to all other enforcement provisions in this  
 41 act, and the payment of a civil administrative penalty shall not be  
 42 deemed to affect the availability of any other enforcement pro-  
 43 vision in connection with the violation for which the penalty is  
 44 levied.\*

45 c. The department is hereby authorized and empowered to com-  
 46 promise and settle any claim for a penalty under this section in  
 47 such amount in the discretion of the department as may appear  
 48 appropriate and equitable under all of the circumstances \*including  
 49 the posting of a performance bond by the violator\*.

50 \*d. Any person who violates this act or an administrative order  
 51 issued pursuant to subsection b. of this section or a court order  
 52 issued pursuant to subsection a. of this section or who fails to pay  
 53 a civil administrative penalty in full pursuant to subsection b. of  
 54 this section shall be subject, upon order of the court, to a civil  
 55 penalty not to exceed \$10,000.00 per day of the violation, and each  
 56 day's continuance of the violation shall constitute a separate and  
 57 distinct violation. Any penalty imposed under this subsection may  
 58 be recovered with costs in a summary proceeding pursuant to "the  
 59 penalty enforcement law" (N. J. S. 2A:58-1 et seq.). The Superior  
 60 Court and county district court shall have jurisdiction to enforce  
 61 "the penalty enforcement law."\*

1 \*18. Section 2 of P. L. 1940, c. 5 (C. 54:30A-50) is amended to  
 2 read as follows:

3 2. Definitions: As used in this act—unless the context otherwise  
 4 requires:

5 (a) "Taxpayer" means any corporation subject to taxation under  
 6 the provisions of this act. \*\*A person or business entity owning or  
 6a operating a cogeneration facility as defined in subsection (j) of  
 6b this section shall not be deemed a corporation subject to taxation  
 6c under this act unless it shall be a public utility as specifically enu-  
 6d merated in sections 1 and 6 of P. L. 1940, c. 5 (C. 54:30A-49 [et  
 6e seq.] and C. 54:30.1-54).\*\*

7 (b) "Real estate" means lands and buildings, but it does not  
 8 include railways, tracks, ties, lines, wires, cables, poles, pipes,  
 9 conduits, bridges, viaducts, dams and reservoirs (except that the  
 10 lands upon which dams and reservoirs are situated are real estate),  
 11 machinery, apparatus and equipment, notwithstanding any attach-  
 12 ment thereof to lands or buildings.

13 (c) "Gross receipts" means all receipts from the taxpayer's  
 14 business over, in, through or from the whole of its lines or mains  
 15 but does not include any sum or sums of money received by the  
 16 taxpayer in payment for gas or electrical energy or water sold

17 and furnished to another public utility which is also subject to the  
18 payment of a tax based upon its gross receipts, \*\*nor any sum or  
18a sums of money received by the taxpayer from a cogenerator in  
18b payment for cogenerated electrical energy resold by the taxpayer  
18c to the producing cogenerator where produced,\*\* nor in the case of  
19 a street railway or traction corporation the receipts from the operation  
20 of autobuses or vehicles of the character described in \*\*[Title  
21 48, chapter 15, section 41 to the end of the chapter, of the Revised  
22 Statutes (Revised Statutes, section 48:15-41, et seq.)]\*\* \*\*R. S.  
23 48:15-41 through R. S. 48:15-56, inclusive\*\*, nor in the case of a  
24 sewerage corporation an amount equal to any sum or sums of  
24a money payable by such sewerage corporation to any board,  
25 commission, department, branch, agency or authority of the State  
26 or of any county or municipality, for the treatment, purification or  
27 disposal of sewage or other wastes, nor in the case of a water  
28 purveyor, the amount which represents the water tax imposed by  
29 section 11 of P. L. 1983, c. .... (C. .... ) (now pending before  
30 the Legislature as Assembly Committee Substitute for Assembly  
31 Bill No. 280 of 1982) and which is included in the tariff altered  
32 pursuant to section 6 of P. L. 1983, c. .... (C. .... ) (now  
33 pending before the Legislature as Assembly Committee Substitute  
34 for Assembly Bill No. 280 of 1982).

35 (d) "Scheduled property" means only those classes or types of  
36 property of a taxpayer set forth in section 10 of this act and which  
37 are to be used in computing the apportionment value as herein  
38 defined.

39 (e) "Unit value" means the value set forth in section 10 of this  
40 act to be uniformly applied to each of the several classes or types  
41 of scheduled property in computing the apportionment value.

42 (f) "Apportionment value" or "apportionment valuation" means  
43 the result obtained by multiplying the quantities of each class or  
44 type of scheduled property of a taxpayer by the applicable unit  
45 value, and the addition of such results.

46 (g) "Public street, highway, road or other public place," in-  
47 cludes any street, highway, road or other public place which is open  
48 and used by the public, even though the same has not been formally  
49 accepted as a public street, highway, road, or other public place.

50 (h) "Service connections" means the wires or pipes connecting  
51 the building or place where the service or commodity supplied by  
52 the taxpayer is used or delivered, or is made available for use or  
53 delivery, with a supply line or supply main in the street, highway,  
54 road, or other public place, or with such supply line or supply main  
55 on private property.

56 (i) "State Tax Commissioner" or "director" means the Director  
57 of the Division of Taxation in the Department of the Treasury\*.

58 \*\* (j) "Cogenerator" means a person or business entity which  
59 owns or operates a cogeneration facility in the State of New Jersey  
60 which facility is a plant, installation or other structure whose  
61 primary purpose is the sequential production of electricity and  
62 steam or other forms of useful energy which are used for industrial,  
63 commercial, heating or cooling purposes; and which is designated  
64 by the Federal Energy Regulatory Commission, or its successor,  
65 as a "qualifying facility" pursuant to the provisions of the "Public  
66 Utilities Regulatory Policies Act of 1978," Pub. L. 95-617.\*\*

1 \* [17.] \* 19.\* There is appropriated from the General Fund the  
2 sum of \$500,000.00 to the Department of Environmental Protection  
3 to carry out the purposes of this amendatory and supplementary  
4 act. This appropriation shall be repaid to the General Fund as soon  
5 as practicable from the assessments made pursuant to section 11  
6 of this amendatory and supplementary act.

1 \* [18.] \* 20.\* This act shall take effect immediately.

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TAB NO. 8

N.J.A.C. 7:14A-1 et seq.

REGULATIONS CONCERNING

THE

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

(N.J.P.D.E.S)

N.J.A.C. 7:14A-1 et seq.

REGULATIONS CONCERNING

THE

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

(N.J.P.D.E.S)

The New Jersey Pollutant Discharge Elimination System (NJPDDES) was promulgated on March 6, 1981, with amendments in July 1982 covering fee schedule for NJPDDES permittees who discharge to surface water, discharge to the groundwater and for hazardous wastes facilities who discharge to publicly-owned treatment works (POTW); and for permittees who discharge landfill leachate for treatment at POTW's and in June 1983 revising the authority to issue discharge permits to significant industrial user (SIU's) of all domestic treatment works (DTW's).

The purpose of the March 1981 NJPDDES regulations as stated in Subchapter 1 is to:

1. Restore, enhance and maintain the chemical, physical, and biological integrity of the waters of the State;
2. Protect public health and safety;
3. Protect potable water supplies;
4. Safeguard fish and aquatic life and scenic and ecological values;
5. Enhance the domestic, municipal, recreational, industrial, agricultural and other uses of water; and

6. Prevent, control, and abate water pollution and to implement the N.J. Water Pollution Control Act N.J.S.A. 58:10A-1 et seq.

Under the purview of these regulations specifically as delineated in Section 1.3 of Subchapter 1:

1. No person shall build, install, modify or operate any facility for the collection, treatment or discharge of any pollutant, except in conformance with a valid final draft NJPDES permit that has been issued by NJDEP.
2. No person shall discharge any pollutant except in conformity with a valid NJPDES permit.

General requirements for the NJPDES permit application are covered under Subchapter 2 and under the 90-day Construction Permit Act.

NJDEP regulates, but is not limited to, the following by means of the NJPDES permit program:

1. Discharge of pollutants to surface water (DSW).
2. Discharge of pollutants to groundwater (DGW).
3. Discharge of pollutants into wells (Underground Injection Control (UIC) (Subchapter 5)).
4. Groundwater monitoring system for DGW of hazardous and non-hazardous waste (Subchapter 6).
5. Discharge of industrial pollutants by a significant industrial user (SIU) into a municipal or privately-owned treatment works (POTW's). (June 1983 Amendments to the Act).

6. Discharge of leachate to surface waters and into the groundwater from facilities under the jurisdiction of the Solid Waste Management Act (N.J.S.A. 13:1E-1 et seq.) (i.e. Sanitary Landfills).
7. Land application of municipal and industrial wastewaters by spray irrigation (LSI), overland flow (OLF) and rapid infiltration (RI);
8. Criteria for the construction of an operation of treatment works (Subchapter 12), including the requirements of the 90-day Construction Permit Act as established by Governor Byrne's Executive Order No. 57 on October 23, 1975.
9. The storage of any liquid or solid pollutant, in a significant quantity, in a manner designed to keep it from entering the water of the State.
10. Discharge into aquaculture project.
11. Silvicultural point sources.
12. Discharge from separate storm sewer.
13. Thermal surface water discharge.
14. Treatment, storage or disposal of hazardous waste.

General prohibitions established by the NJPDES permit program which are clearly pertinent to the Zoning Suit are the following as specified under Section 1.4 (d), Subchapter 1.

"A NJPDES permit shall not be issued:

(d) For any discharge inconsistent with any area wide plan or plan amendment;" (201 and 208 Plans)

STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

~~Thomas H. Kean~~  
~~Brendan T. Byrne~~, Governor

~~Robert E. Hughey~~  
~~Jerry Fitzgerald-English~~, Commissioner

REGULATIONS CONCERNING THE NEW JERSEY  
POLLUTANT DISCHARGE ELIMINATION SYSTEM

March 1981

N.J.A.C. 7:14A-1 et seq.

Arnold Schiffman, Director, Division of Water Resources

Let's protect our earth



## SUBCHAPTER 1 - GENERAL INFORMATION

### 1.1 Authority

These regulations are promulgated pursuant to the authority of the following acts: (a) New Jersey "Water Pollution Control Act", N.J.S.A. 58:10A-1 et seq.; (b) "Water Quality Planning Act", N.J.S.A. 58:11A-1 et seq.; (c) "Pretreatment Standards for Sewerage", N.J.S.A. 58:11-49 et seq.; (d) "Spill Compensation and Control Act", N.J.S.A. 58:10-23.11 et seq.; (e) "Licensing of Superintendents or Operators of Public Water Treatment Plants, Public Sewage Treatment Plants and Public Water Supply Systems", N.J.S.A. 58:11-18.10 et seq.; (f) N.J.S.A. 13:1D-1 et seq.; (g) N.J.S.A. 13:1B-3; (h) "Solid Waste Management Act", N.J.S.A. 13:1E-1 et seq.

### 1.2 Purpose

It is the purpose of these regulations to:

- (a) Restore, enhance, and maintain the chemical, physical, and biological integrity of the waters of the State;
- (b) Protect public health and safety;
- (c) Protect potable water supplies;
- (d) Safeguard fish and aquatic life and scenic and ecological values;
- (e) Enhance the domestic, municipal, recreational, industrial, agricultural and other uses of water;
- (f) Prevent, control, and abate water pollution and to implement the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.

### 1.3 Scope

- (a) These regulations prescribe procedures and guidelines for implementation and operation of the New Jersey Pollutant Discharge Elimination System (NJPDES) permit program.
- (b) No person shall build, install, modify, or operate any facility for the collection, treatment or discharge of any pollutant, except in conformance with a valid final draft New Jersey Pollutant Discharge Elimination System (NJPDES) permit (or where applicable, a final NJPDES permit or treatment works approval) that has been issued by the Department pursuant to the State Act and these regulations.
- (c) No person shall discharge any pollutant except in conformity with a valid NJPDES permit. A discharger which existed prior

to the effective date of these regulations who has submitted a complete applications shall be deemed to only satisfy the requirement of applying for a permit. This shall not preclude the Department from taking any appropriate enforcement action for violation of the State Act, these regulations, or other applicable law or regulation.

- (d) It is the intent of the Department to regulate, but is not limited to, the following by means of the New Jersey Pollutant Discharge Elimination System (NJPDES) permit program:

1. Discharge of pollutants to surface and ground waters;
2. Discharge of industrial pollutants by a significant industrial user into a municipal or privately owned treatment works. Although all dischargers to municipal owned treatment works are not required to obtain a NJPDES permit all such dischargers shall conform with 40 CFR Part 403. Although all discharges to privately owned treatment works may not be required to obtain a NJPDES permit such discharges shall comply with Section 3.13(m).
3. Land application of residuals;
4. Land application of municipal and industrial wastewaters;
5. Discharge of leachate to surface waters and into the ground water from facilities under the jurisdiction of the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq.
6. Criteria for the construction and operation of treatment works;
7. The storage of any liquid or solid pollutant, in a significant quantity, in a manner designed to keep it from entering the waters of the State;
8. Discharge of pollutants into well#;
9. Concentrated animal feeding operations as defined in Section 3.4;
10. Concentrated aquatic animal production facilities as defined in Section 3.5;
11. Discharges into aquaculture projects as defined in Section 3.6;
12. Silvicultural point sources as defined in Section 3.7;

13. Discharges from separate storm sewers as defined in Section 3.8.

14. Treatment, storage or disposal of hazardous waste as defined in Subchapter 4;

(e) The Department may issue, but is not limited to, permits under the NJPDES permit program for:

1. Discharge of pollutants to surface water (DSW), (Subchapter 3) including, where applicable, a discharge allocation certificate (DAC) (Section 3.3);

2. Discharge of pollutants into a municipal or privately owned treatment works (Significant Industrial User (SIU) (Subchapter 13));

3. Treatment, storage or disposal of hazardous waste which is not regulated by the "Hazardous Waste Management Regulations", N.J.A.C. 7:26-1.1 et seq.

4. Discharge of pollutants into wells (Underground Injection Control (UIC) (Subchapter 5)) in accordance with the State Act and as required to be regulated under the "Resource Conservation and Recovery Act", as amended (Industrial Waste Management Facility (IWMP) (Subchapter 4));

5. Surface impoundments (SI);

6. Land application of sludge and septage (LAS);

7. Land application of effluents by spray irrigation (LSI);

8. Land application of effluents by overland flow (LOF);

9. Land disposal by infiltration-percolation lagoons (LIPL);

10. Discharges from sanitary landfills (a DGW or DSW).

#### 1.4 General Prohibitions

A NJPDES permit shall not be issued:

(a) When the conditions of the permit do not provide for compliance with the applicable requirements of the State and Federal Acts or regulations;

(b) For the discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste;

(c) When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected states;

(d) For any discharge inconsistent with any areawide plan or plan amendment;

(e) To any facility which requires the disposal of liquid sludge into a landfill after March 15, 1985.

#### 1.5 Consolidation of Permit Processing

(a) It is the intent of the Department to issue a single NJPDES permit which includes all of the discharges covered by these regulations. (See Section 1.3(e)). The Department has designated the types of discharges separately because certain information required in the permit applications and certain provisions that will be established as permit conditions are applicable only to a specific type of discharge. Therein where a person is required to obtain a permit for a discharge covered under these regulations, this shall mean that a specific type of discharge must be included and authorized in the NJPDES permit. The general provisions of the regulations shall apply to all types of discharges included in the NJPDES regulations (Subchapters 1, 2, 7 and 8). Additional conditions may apply to specific types of discharges.

(b) Whenever a facility or activity has more than one type of discharge covered by these regulations, application for all required permits to discharge shall be made at the earliest required date of filing for any of the discharges in accordance with Sections 2.1(f) and 10.1.

(c) 1. Whenever a facility or activity has more than one type of discharge covered by these regulations, processing of two or more applications for those permits should to the extent practicable as determined by the Department be consolidated. The first step in consolidation is to prepare each draft permit at the same time.

2. Whenever draft permits are prepared at the same time, the statements of basis (required under Section 7.7) or fact sheets (Section 7.8), administrative records (required under Section 7.9), public comment periods (Section 8.1), and any public hearings (Section 8.3) on those permits should also be consolidated. The final permits should to the extent practicable be issued together. They need not be issued together if, in the judgment of the Department, joint processing would result in unreasonable delay in the issuance of one or more approval to discharge.

(d) Whenever an existing facility or activity requires additional permits covered by these regulations, the Department should to the extent practicable coordinate the expiration date(s) of the new permit(s) with the expiration date(s) of the

existing permit(s) so that all permits expire simultaneously. Processing of the subsequent application for renewal permits can then be consolidated.

- (e) Processing of permit applications under paragraphs (b) or (c) of this section may be consolidated as follows:
1. The Department will to the extent practicable consolidate permit processing at its discretion.
  2. Permit applicants may recommend whether or not the processing of their applications should be consolidated.

#### 1.6 Severability

If any provision of these regulations or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions of these regulations, and to this end, the provisions of these regulations are declared to be severable.

#### 1.7 Conflict of Interest

- (a) Any board or body which approves all or portions of a permit shall not include as a member any person who receives, or has during the previous two years received, a significant portion of income directly or indirectly from permit holders or applicants for a permit.
- (b) For the purposes of this section:
1. "Board or body" includes any individual, including the Director, who has or shares authority to approve all or portions of permits either in the first instance, as modified or reissued, or on appeal.
  2. "Significant portion of income" means 10 percent or more of gross personal income for a calendar year, except that it means 50 percent or more of gross personal income for a calendar year if the recipient is over 60 years of age and is receiving that portion under retirement, pension, or similar arrangement.
  3. "Permit holders or applicants for a permit" does not include any department or agency of State government.
  4. "Income" includes retirement benefits, consultant fees, interest, and stock dividends.
- (c) For the purposes of this section, income is not received "directly or indirectly from permit holders or applicants for a permit" when it is derived from mutual fund payments, or

from other diversified investments for which the recipient does not know the primary sources of income.

#### 1.8 Application of these regulations.

- (a) These regulations shall be liberally construed to permit the Department to effectuate the purposes of the State Act.
- (b) The Department may require an applicant to provide additional information where such information is necessary, in the opinion of the Department, to fully disclose all relevant facts concerning the permit application or permit, including proprietary data. The applicant may assert a claim of confidentiality pursuant to Subchapter 11. Any failure to submit such information shall constitute valid cause for denial of the permit or other remedy as provided by law.
- (c) Upon notice to all persons involved in a specific proceeding, and after public notice in the DEP Bulletin with a 30 day comment period, the Commissioner or an authorized representative may, in the public interest, relax the application of these regulations.
- (d) The issuance and compliance of all DSW, UIC, IWMP permits shall, at a minimum, satisfy the requirements of 40 CFR Parts 122, 123 and 124, not withstanding paragraph (c) above.
- (e) Any provision of these regulations or the application thereof to any person shall be revised automatically, as necessary to reflect additional requirements or more stringent requirements which are based on, or are comparable to regulations adopted by the EPA.

#### 1.9 Fee Schedule for NJPDES permittees

- (a) Annual fee.

The Department shall collect annual fees which shall be based upon the estimated cost of administering the NJPDES permit program, which includes processing, monitoring, and administering the permits. The yearly fee for a discharge shall be computed according to a sliding scale formula which approximates the administrative costs for permit processing, issuance and enforcement, and relates these costs to the total quantity of pollutants discharged by the permittee.

- (b) Public Hearing.

The Department shall hold a public hearing concerning the fees each year prior to the assessment of the fees which cover the following year.

(c) Annual fee for discharge to surface water.

1. The yearly fee for a direct discharge to surface water shall be based on the average daily biochemical oxygen demand (BOD<sub>5</sub>) or chemical oxygen demand (COD) mass loading and/or heat loading as reported to the Department by the permittee on the monitoring report forms.

(d) Monitoring Report Forms

1. All dischargers shall report to the Department in conformance with the Schedule in Appendix H, the appropriate physical, chemical or biological parameters needed to compute the annual NJPDES permit fees.

The values for these parameters shall be reported monthly and on Monitoring Report Forms (MRF) which can be obtained by writing to:

Assistant Director  
Water Quality Management  
NJPDES Permit Administration  
Division of Water Resources  
P.O. Box CN-029  
Trenton, NJ 08625

2. Wastewater flows shall be reported in millions of gallons per day (mgd), Biochemical Oxygen Demand (BOD<sub>5</sub>) and Chemical Oxygen Demand (COD), and Suspended Solids (SS), shall be reported in milligrams per liter (mg/l). Temperature shall be reported in degrees Celsius °C.
3. POTW and DTW shall report every month the average daily flow (Q) and BOD<sub>5</sub> (BOD) for that month.
4. Industrial and commercial dischargers except for those dischargers covered by subparagraph (6) shall report monthly the average daily flow (Q) and COD for that month.
5. Discharges consisting solely of non-contact cooling water shall report monthly the average daily flow (Q), the average daily discharge temperature (T<sub>D</sub>) and the average daily ambient water temperature (T<sub>A</sub>), upstream from the point of discharge. This point should be located outside the influence of the thermal plume. Where the intake water source is the receiving stream, intake water temperature shall be used instead of upstream water temperature. Where the average daily ambient temperature is not provided by the permittee the values in Appendix A shall be used for computing the annual fee.

6. Discharges of nonprocess, nonthermal ground water from continuous dewatering operations of mining of which the quality does not meet the ambient surface water quality standards of the receiving water shall report monthly on the average daily flow (Q) and the average daily Total Suspended Solids (SS). Temporary Dewatering operations needed for construction purposes are exempt from the requirements of this paragraph and of the fee requirements of this section.

7. Discharges consisting of a mixture of cooling water and industrial and/or commercial process water shall report as required by subparagraphs 4 and 5.

8. For the purpose of these regulations, average daily discharge rate, Biochemical Oxygen Demand (5 day BOD) mass loading, the average daily chemical oxygen demand (COD) mass loading, and average daily heat loading shall be computed as follows:

- i. The reported average daily BOD<sub>5</sub> or COD as submitted to the Department on MRF's shall be multiplied by the average daily discharge flow rate and the appropriate unit conversion factors to yield the average daily BOD<sub>5</sub> or COD mass loading for the month. The reported average daily ambient temperature T<sub>A</sub> shall be subtracted from the reported average daily discharge temperature T<sub>D</sub>, and the result shall be multiplied by the reported average daily discharge flow rate and the appropriate unit conversion factors to yield the average daily thermal loading for the month.
- ii. The average daily BOD<sub>5</sub> or COD mass loadings or the average daily thermal loadings computed in paragraph 8.i. shall be summed for the months of January through and including December.
- iii. The appropriate sum of the average daily loadings computed in paragraph 8.ii. shall be divided by 12 to obtain a daily average for the year. For the purposes of fee calculation this daily average shall be interpreted as the average mass loading of BOD<sub>5</sub> or COD per day or as the average heat loading per day for the discharge. These daily averages will be summed by category over all the discharges for the facility to yield the average daily mass loading of BOD<sub>5</sub> or COD or average daily heat loading to be used in the fee calculation.
- iv. If the discharge has been in operation less than one year, the average daily mass or heat loading

shall be based on the actual number of months of operation. The annual fee shall be proportional to the number of months of operation but not less than the minimum amount given in paragraphs (e)1. through 4.

(e) Fee Calculation.

1. For municipal discharges, except for those covered by paragraphs (e)5. or 6., the annual fee  $F_m$  in U.S. dollars is given by:

$$F_m = -3314.868 + 716.380 (L-BOD)^{1/3}; \text{ or by}$$

$$F_m = -3314.868 + 932.2785 (K-BOD)^{1/3}$$

where L-BOD is the average daily BOD<sub>5</sub> mass loading in lbs. and K-BOD is the average daily BOD<sub>5</sub> mass loading in kilograms computed according to the procedures described in paragraph (d). The minimum annual fee shall be \$100.

2. For industrial discharges, except for those covered by paragraphs (e)4. or (e)7., the annual fee  $F_i$  in U.S. dollars is given by:

$$F_i = -4260.047 + 2103.776 (L-COD)^{1/3}; \text{ or by}$$

$$F_i = -4260.047 + 2736.0812 (K-COD)^{1/3}$$

where L-COD is the average daily COD mass loading in lbs. and K-COD is the average daily COD mass loading in kilograms computed according to the procedure described in paragraph (d). The minimum annual fee shall be \$100.

3. For discharges of non-contact cooling water the annual fee  $F_c$  in U.S. dollars is given by:

$$F_c = -396.761 + 1712.077 (H_m)^{1/3}$$

where  $H_m$  is the average daily heat load expressed as million BTU's (British Thermal Units) per hour computed according to the procedure described in paragraph (d) and divided by 24. The minimum annual fee shall be \$100.

4. For nonprocess, nonthermal discharges of ground water from dewatering operations of which quality is not worse than the ambient surface water quality standards for the receiving waters, there shall be no annual fee assessed. In order to qualify under this paragraph, a facility must submit a written request for variance, which will be subject to the approval of the Department. Such a request must be accompanied by sampling data showing that the discharge is of the required quality.

5. Schools, churches, and charitable institutions shall not be assessed a fee.
6. Permittees whose only discharges are storm sewers or combined sewers will be assessed a fee  $F_n$  of \$100 in U.S. dollars.
7. Discharges from oil/water separators of stormwater will be assessed a fee  $F_l$  of \$100 in U.S. dollars.
8. The Department shall examine and may amend on a yearly basis the coefficients of the fees formulae to account for changing conditions and costs. The Department shall notify all permittees of its findings prior to holding the public hearing concerning the annual fees as required by 1.9(b).

- (f) For calendar year 1981, and unless revised, the annual fees for municipal, industrial and thermal discharges shall be computed according to paragraphs (e)1. through 3. However, instead of the actual discharge values the average daily BOD and COD shall be assumed to be as follows:

1. DTW primary treated effluent BOD<sub>5</sub> = 100 mg/l
2. DTW secondary treated effluent BOD<sub>5</sub> = 20 mg/l
3. Industrial or commercial primary treated effluent COD = 100 mg/l
4. Industrial or commercial secondary treated effluent COD = 60 mg/l
5. Where a facility has a discharge consisting of mixed cooling and process water or mixed process water and sanitary waste, the fee shall be computed in accordance with (f)4.

- (g) Where a facility has separate or combined discharges of industrial pollutants and noncontact cooling water, a fee shall be assessed for each.

- (h) Annual permit fees for discharges to groundwater (Reserved).

- (i) Annual permit fees for discharges to domestic treatment works (Reserved).

1.10 Definitions

As used in these regulations, the following words and terms shall have the following meanings:

"Well plug" means a watertight and gastight seal installed in a borehole or well to prevent movement of fluids.

"Well record" means a concise statement of the available data regarding a well, such as a scout ticket: a full history or day-by-day account of a well, from the day the well was surveyed to the day production ceased.

"Well stimulation" means several processes used to clean the well bore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation, and includes: (1) surging; (2) jetting; (3) blasting; (4) acidizing; or (5) hydraulic fracturing.

"Well monitoring" means the measurement by on-site instruments or laboratory methods of the quality of water in a well.

"Wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

"Zone of saturation" means "saturated zone".

## SUBCHAPTER 2 - GENERAL REQUIREMENTS FOR THE NJPDES PERMIT

### 2.1 Application for a NJPDES Permit

#### (a) General

All applications for a NJPDES permit shall be submitted to:

Assistant Director  
Water Quality Management  
Division of Water Resources  
P.O. Box CN-029  
Trenton, N.J. 08625

- (b) When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit, except that for an IWMF permit only, the owner shall also sign the permit application.
- (c) The Department shall not issue a permit before receiving a complete application, with the exception of an emergency permit issued pursuant to Section 2.2. An application for a permit is complete when the Department receives all of the information required on the application form and any information substantially related to the permit and determines the application has been satisfactorily completed. The completeness of each application for any type of discharge permit shall be judged independently of the status of any other permit application or permit for the same facility or activity. An applicant is required to submit the applicable information in Sections 1.8(b), 2.1, 3.2, 4.4, 5.8, and Subchapters 6 and 10. The Department shall not make a final determination on any application until such time as the applicant has supplied any missing information and corrected any deficiencies.
- (d) A person whose facility or activity results in more than one discharge at a single site, shall describe each discharge separately in the application.
- (e) Any person with a discharge which is the subject of any of the applications required by these regulations and which threatens public health, causes or contributes to any contravention of applicable water quality standards or effluent limitations, may be required to abate such pollution notwithstanding the filing of an application or pending filing requirement.
- (f) Schedule for submission of applications:
  - 1. Any person planning to undertake any activity which will result in a discharge to surface water (DSW) shall apply

for a discharge allocation certificate (DAC) in accordance with Section 3.3. unless prior to the effective date of these regulations a facilities plan which includes such facility has been approved pursuant to Section 201 of the Federal Act. This provision does not exempt a facility from obtaining a NJPDES permit in accordance with these regulations.

2. Any person planning to undertake any activity which will result in a discharge covered by these regulations (except for a discharge to surface water (DSW)) shall apply for a NJPDES permit in accordance with Section 7.2, at least 180 days prior to building, installing, or substantially modifying any facility for the collection or treatment of any pollutant.
3. Any person planning to undertake any activity which will result in a discharge covered by these regulations, which does not require a facility for the collection or treatment of waste (such as land application of sludge), shall apply for a NJPDES permit at least 90 days prior to planned discharge.
4. Any person who had a NPDES permit prior to the effective date of these regulations shall apply for a NJPDES permit in accordance with Section 10.1.
5. Any person planning to continue discharging after the expiration date of an existing NJPDES permit must file an application for renewal at least 180 days prior to expiration of the existing permit.
6. All other applicants for a NJPDES permit(s) shall apply in accordance with Section 10.1.

(g) All applicants for NJPDES permits shall provide the following information to the Department using the application form provided by the Department:

1. The activities conducted by the applicant which require it to obtain a NJPDES permit.
2. Name, mailing address, and location of the facility for which the application is submitted.
3. The SIC codes which best reflect the principal products or services provided by the facility.
4. The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public or other entity.

5. Name of applicant's parent corporation.

6. A listing of all permits or construction approvals received or applied for by the applicant or its parent corporation at the site under any of the following programs:

- i. Hazardous Waste Management program under RCRA.
- ii. NJPDES permits or treatment works approvals under the State Act or construct and operate permits.
- iii. Prevention of Significant Deterioration (PSD) program under the Clean Air Act.
- iv. Nonattainment program under the Clean Air Act.
- v. National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.
- vi. Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.
- vii. Dredge or fill permits under Section 404 of the Federal Act.
- viii. Other relevant environmental permits, including Federal permits.

7. Identification of administrative orders issued or complaints filed, against the operation of the applicant at that site concerning pollution within the previous 5 years.

8. To the extent practicable, the location of all sites involved in the storage of solid or liquid waste at the facility for which the NJPDES application is being made and the ultimate disposal sites of solid or liquid waste generated by any facility with a discharge.

9. A topographic map (U.S. Geological Survey Topographic Map. 7.5 minute Quadrangle Series) extending one mile beyond the property boundaries of the source, depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant in the map area.

10. A brief description of the nature of the business.
- (h) The Department may require that an applicant for a NJPDES permit provide additional data, reports, specifications, plans or other information concerning the existing or proposed pollution control program. The Department shall not make a final determination on any application until such time as the applicant has supplied the requested information and otherwise corrected any deficiencies.
- (i) Recordkeeping. Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under Sections 2.1, (3.2 DSW) (4.4 IWMF) (5.8 UIC) and Subchapters 6 and 10 for a period of at least 5 years from the date the application is signed.
- (j) Endorsements and comments
1. Prior to the submission of an application for a new source DSW permit, for municipal treatment works including a DAC, and for sewer extension approval, the applicant shall submit (return receipt requested) a copy of the application and the applicable information required pursuant to these regulations to the affected sewerage authority(ies) and to the municipality in which the discharge(s) will be located, with a request that they endorse the application. The applicant shall submit a copy of the request for endorsement and receipt (return receipt requested) when filing an application with the Department. A request for an endorsement is not required when filing applications for renewal of NJPDES permits or discharges which exist as of the effective date of these regulations. Although the applicant must submit a request for an endorsement to the municipality and affected sewerage authority, an endorsement is not required for a Department determination of whether to issue a draft permit in accordance with Section 7.6. This subsection shall not apply to industrial treatment works.

2. Endorsement by municipality

- i. An endorsement by a municipality concerning a proposed discharge of industrial pollutants shall include the following statements:
  - (A) The project as proposed is in conformance with the requirements of all municipal ordinances; and

(B) The governing body of the municipality accepts and approves of the project as proposed by the applicant.

- ii. An endorsement must be in the form of a resolution by the governing body.
- iii. Proof that the applicant has made a request for endorsement shall be submitted to the Department by the applicant with the application.
- iv. An endorsement by a municipality concerning a proposed domestic treatment works, shall be as required on the CP-1 application form.
- v. If the endorsement is to be signed by anyone other than the mayor, the municipality shall file with the Department an official resolution by the governing body delegating such responsibility to a named individual.

Endorsement by affected sewerage authority

- i. For purposes of this section, "affected sewerage authority" means the sewerage authority whose service area includes the site where the discharge requiring a NJPDES permit is located.
- ii. An endorsement by an affected sewerage authority concerning the proposed discharge of industrial pollutants shall include the following statements:
  - (A) The project as proposed is in conformance with the applicable 201 facilities plan and all ordinances, rules or regulations of the authority.
  - (B) The governing body of the authority accepts and approves of the project as proposed by the applicant.
- iii. The endorsement must be in the form of a resolution by the governing body.
- iv. Proof that the applicant has made a request for endorsement shall be submitted to the Department by the applicant with the application.
- v. An endorsement by an affected sewerage authority concerning a proposed domestic treatment works shall be as required on the CP-1 application form.

4. Lack of Endorsement

- i. Where the affected sewerage authority or municipality fails to endorse the application or submit comments within sixty (60) days of request for endorsement the Department shall begin the application process without the endorsement.
- ii. Prior to the expiration of the 60 day period, the municipality may request a thirty day extension for review of the request for endorsement.
- iii. Any document issued by a sewerage authority or a municipality which is tentative, preliminary, or a conditional approval shall not be considered an endorsement.
- iv. Where the affected sewerage authority or municipality denies endorsement to a project, it shall state all reasons for rejection or disapproval in a resolution and send a certified copy of the resolution to the Department.

5. Where the municipality or affected sewerage authority denies an endorsement or does not issue an endorsement the Department shall review the reasons for denial of the endorsement or any comments received concerning the application for the NJPDES permit. These reasons and comments shall be considered by the Department in a tentative determination of whether to issue a draft permit in accordance with Section 7.6.

2.2 Emergency permits.

(a) Coverage. Notwithstanding any other provision of these regulations, except for a DSW, the Department may issue a temporary emergency permit to a person to allow: discharge of pollutants, where such discharge is unpermitted or the discharge consists of pollutants not covered by an effective permit; treatment, and storage or disposal of hazardous waste for a non-permitted IWMP facility or of hazardous waste not covered by the permit for an IWMP facility with an effective permit; or a specific underground injection which has not otherwise been authorized by permit, if:

1. The Department finds that an imminent and substantial endangerment to human health will result unless a temporary emergency permit is granted; or
2. Except with regard to an injection under the UIC program, the Department finds that an imminent and

substantial endangerment to the environment will result unless a temporary emergency permit is granted; or

3. A substantial and irretrievable loss of oil or gas resources will occur unless a temporary emergency permit is granted to a Class II well under the UIC program; and
  - i. Timely application for a permit could not practicably have been made; and
  - ii. The injection will not result in the movement of fluids into underground sources of drinking water; or
4. A substantial delay in production of oil or gas resources will occur unless a temporary emergency permit is granted to a new Class II well under the UIC program, and the temporary authorization will not result in the movement of fluids into an underground source of drinking water.

(b) Requirements for issuance. This emergency permit:

1. May be oral or written. Oral permission may only be given by the Director, Division of Water Resources, or his/her designee. If oral, it shall be followed within five days by a written emergency permit;
2. Shall not exceed 90 days in duration, except:
  - i. That underground injections temporarily permitted in order to prevent an imminent and substantial endangerment to the health of persons shall be for no longer term than required to prevent the hazard, or 90 days, whichever is less;
  - ii. That land application of municipal or nonhazardous sludge temporarily permitted in order to prevent an imminent and substantial endangerment to the health of persons shall be for no longer than required to prevent the hazard, or 180 days, whichever is less;
3. Shall clearly specify the hazardous wastes to be received, and the manner and location of their treatment, storage, disposal, or injection;
4. Shall clearly specify the rate, quantity, and quality of pollutants to be discharged and the monitoring which is required;

(e) Notwithstanding any other provisions of this subchapter, any ground-water quality assessment to satisfy the requirements of Section 6.5(d)3. which is initiated prior to final closure of the facility must be completed and reported in accordance with Section 6.5(d)4.

(f) Unless the ground-water is monitored to satisfy the requirements of Section 6.5(d)3., the owner or operator, at least annually, must evaluate the data on ground-water surface elevations obtained under Section 6.4(e) to determine whether the requirements under Section 6.3(a) for locating the monitoring wells continue to be satisfied. If the evaluation shows that Section 6.3(a) is no longer satisfied, the owner or operator must immediately modify the number, location or depth of the monitoring wells to bring the ground-water monitoring system into compliance with this requirement.

#### 6.6 Recordkeeping and Reporting for DGW of Hazardous Waste

(a) Unless the ground-water is monitored to satisfy the requirements of Section 6.5(d)3., the owner or operator must:

1. Keep records of the analyses required in Section 6.4(c) and (d), the associated ground-water surface elevations required in Section 6.4(e), and the evaluations required in Section 6.5(b) throughout the active life of the facility, and for disposal facilities, throughout the post-closure care period as well; and

2. Report the following ground-water monitoring information to the Department:

i. During the first year when initial background concentrations are being established for the facility, concentrations or values of the parameters listed in Section 6.4(b)1. for each ground-water monitoring well must be reported within 15 days after completing each monthly analysis. The owner or operator must separately identify for each monitoring well any parameters whose concentration or value has been found to exceed the maximum contaminant levels listed in Table 1 of Section 6.4.

ii. Annually, concentrations or values of the parameters listed in Section 6.4(b)2. for each ground-water monitoring well, along with the

required evaluations for these parameters under Section 6.5(b) must be reported. The owner or operator must separately identify any significant differences from initial background found in the upgradient wells, in accordance with Section 6.5(c)1. During the active life of the facility, this information must be submitted as part of the annual report submitted to the Department as required under 40 CFR Section 265.7 or N.J.A.C. 7:26-7.1 et seq., whichever is more stringent. This annual report must include results of the evaluations of ground-water surface elevations under Section 6.5(f), and a description of the response to that evaluation where applicable.

(b) If the ground-water is monitored to satisfy the requirements of Section 6.5(d)3., the owner or operator must keep records of the analyses and evaluations specified in the plan, which satisfies the requirements of Section 6.5(d)2., throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well. In addition, until the final closure of the facility, he must annually submit to the Department a report containing the results of his ground-water quality assessment program which includes, but is not limited to, the calculated (or measured) rate of migration of hazardous waste or hazardous waste constituents in the ground-water during the reporting period. This report must be submitted as part of the annual report submitted to the Department as required under 40 CFR Section 265.7 or N.J.A.C. 7:26-7.1 et seq., whichever is more stringent.

#### 6.7 Applicability of Non-Hazardous Waste Monitoring

The owner or operator of a surface impoundment, landfill, overland flow disposal system, infiltration-percolation system or other land treatment facility that is used to manage non-hazardous waste must implement a ground-water monitoring program capable of determining the facility's impact on the quality of groundwater in the site vicinity. This ground-water monitoring program must be carried out during the active life of the facility, and for disposal facilities, during the post-closure care period as well. Subchapter 10 (Sections 10.7 through 10.12) presents filing requirements for applications for NJPDES permits for land disposal and treatment facilities. These include requirements as to any ground-water monitoring plans and proposals which must be submitted as part of the application. The application and the ground-water monitoring program subsequently implemented must conform with these requirements and the following requirements of this section.

#### 6.8 Ground-water Monitoring System for DGW of Non-Hazardous Waste

Design aspects of the ground-water monitoring system presented for hazardous waste management facilities in Section 6.3 are applicable to non-hazardous waste management facilities as well.

#### 6.9 Sampling and Analysis for DGW of Non-Hazardous Waste

(a) The owner or operator must obtain and analyze samples from the installed ground-water monitoring system. The owner or operator must develop and follow a ground-water sampling and analysis plan approved by the Department. He must keep this plan at the facility. The plan must include procedures and techniques for:

1. Sample collection
2. Sample preservation and shipment
3. Analytical procedures
4. Chain of custody control

(b) In addition to groundwater sampling and analysis of parameters specified in Sections 10.7-10.12 and approved by the Department, elevations of the ground-water surface at each monitoring well must be determined each time a sample is obtained. The Department shall determine, based on the type of facility, type of waste and site specific characteristics whether to expand the list of parameters to be monitored. In addition, the Department may require that annually a gas chromatograph or a gas chromatograph/mass spectrometer (GC/MS) scan for volatile organics, acid extractables, base-neutral extractables and pesticides/PCB's be performed.

(c) For each of the values or concentrations of parameters monitored for the ground-water, the owner or operator must determine initial background arithmetic mean and variance by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained monthly from upgradient wells during the first year. In addition, sampling and analysis must be conducted for the parameters specified in paragraph (b) for the downgradient wells on a monthly basis. Following the first year, the frequency of sampling and analysis may be decreased depending on Department approval.

#### 6.10 Preparation, Evaluation and Response for Non-Hazardous Waste

(a) For each parameter or value as specified in paragraph 6.9(b), following the first year, the owner or operator

must calculate the arithmetic mean and variance, based on at least four replicate measurements on samples obtained monthly and compare these results with its initial background arithmetic mean. This comparison must consider individually each of the wells in the monitoring system and must use the Student's t-test at the 0.01 level of significance to determine statistically significant increases (or pH decrease) over initial background.

- (b) 1. If the comparisons for the upgradient wells made under paragraph (a) of this section show a significant increase (or pH decrease) for concentrations or values of parameters required under Section 6.9(b), the owner or operator must report this information to the Department annually for each ground-water monitoring well along with the required evaluations for these parameters under Section 6.10(a).
2. If the comparisons for downgradient wells made under paragraph (a) of this section show a significant increase (or pH decrease), the owner or operator must then immediately obtain additional ground-water samples from those downgradient wells where a significant difference was detected, split the samples in two, and obtain analyses of all additional samples to determine whether the significant difference was a result of laboratory error.
- (c) If the analyses conducted under paragraph (b)2. of this section confirm the significant increase (or pH decrease), the owner or operator must provide written notice to the Department - within seven days of this confirmation - that the facility may be affecting ground-water quality.
- (d) Within 15 days after the notification under paragraph (c) of this section, if any of the parameters have increased (or pH decreased) such that they do not conform with allowable levels under the specific terms and conditions of the facility's NJPDES permit, the owner or operator must develop and submit to the Department a specific plan certified by a geologist or geohydrologist for a ground-water quality monitoring program that is more comprehensive than that described in Sections 6.8 and 6.9 for the initial groundwater monitoring program employed prior to any occurrence of significant increase (or pH decrease) for concentrations or values of parameters required under Section 6.9(b). This more comprehensive plan must be capable of determining:
1. Whether contamination has entered the groundwater;

2. The rate and extent of migration of contamination in the ground-water; and
3. The concentrations or values of parameters corresponding to or indicating contamination.

This plan must also specify:

4. The number, location and depth of wells;
  5. Sampling and analytical methods for the parameters to be determined;
  6. Evaluation procedures, including any use of previously-gathered ground-water quality information; and
  7. A schedule of implementation.
- (e) The owner or operator must implement the ground-water quality assessment plan which satisfies the requirements of Section 6.10(d) and, at a minimum, make the determinations related to ground-water impact and specified in Section 6.10(d)2. and 3. The owner or operator must make his first determination under this paragraph as soon as technically feasible, and within 15 days after that determination, submit to the Department a written report containing an assessment of the ground-water quality.
- (f) If the owner or operator demonstrates and the Department concurs that the facility has not contaminated ground-water, he may reinstate the initial ground-water monitoring program described in Sections 6.7-6.9 and Section 6.10 paragraphs (a) through (c). He must so notify the Department in the report submitted under paragraph (e) of this section.
- (g) If the owner or operator determines, based on the first determination under paragraph (e) of this section, that the facility has contaminated ground-water he must continue to make the determinations required under paragraph (e) of this section on a monthly basis until final closure of the facility or remedial action has reduced the contamination to levels specified in the permit; or he may cease to make the determinations of paragraph (e) if the ground-water quality assessment program specified in paragraphs (d) and (e) was implemented in the post-closure care period. Notwithstanding any other provision of this section, any ground-water quality assessment to satisfy the requirements of paragraph (e) which is initiated prior

to final closure of the facility must be completed and reported in accordance with paragraph (e).

- (h) Unless the ground-water is monitored to satisfy the requirements of paragraph (e), the owner or operator must, at least annually, evaluate the data on ground-water surface elevations obtained under Section 6.9(b) to determine whether the number, location and depth of upgradient monitoring wells continues to be sufficient to yield ground-water samples that are:
1. Representative of background ground-water quality near the facility; and
  2. Not affected by the facility.

The evaluation must also determine whether downgradient monitoring wells continue to be sufficient in number, location and depth that they are able to immediately detect any statistically significant amount of ground-water contamination migrating from the facility to the ground-water. If the evaluation shows that monitoring wells are no longer adequate to fulfill the requirements of this paragraph, the owner or operator must immediately modify the number, location and depth of the ground-water monitoring wells to bring the ground-water monitoring system into conformance with these requirements.

#### 6.11 Recordkeeping and Reporting for DGW of Non-Hazardous Waste

- (a) Unless the ground-water is monitored to satisfy the requirements of Section 6.10(e), the owner or operator must keep records of the analyses and ground-water surface elevations required in Section 6.9(b) for all monitoring wells and the evaluations required in Section 6.10(h) throughout the active life of the facility, and for disposal facilities, throughout the post-closure care period as well; and report the following ground-water monitoring information to the Department:
1. During the first year, when initial background concentrations are being established for the facility, concentrations or values of the parameters specified in Section 6.9(b) for each ground-water monitoring well within 15 days after completing the analyses. The owner or operator must separately identify for each monitoring well any parameters whose concentrations or values have been found to exceed the maximum contaminant levels as specified in the terms and conditions of the facility's NJPDES permit.

2. Annually, concentrations or values of the parameters specified in Section 6.9(b) for each ground-water monitoring well, along with the required evaluations under Sections 6.10(a) and (b) and Section 6.10(h). Results of the evaluations of ground-water surface elevations under Section 6.10(h) and a description of the response to that evaluation, where applicable must be reported annually.

- (b) If the ground-water is monitored to satisfy the requirements of Section 6.10(e), the owner or operator must keep records of the analyses and evaluations specified in the plan which satisfies the requirements of Section 6.10(e), throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well. Annually, until final closure of the facility, he must submit to the Department a report containing the results of his ground-water quality assessment program which includes, but is not limited to contamination in the ground-water during the reporting period.

#### 6.12 Ground-water Sampling Procedures

To ensure a representative sample from a monitor well or a potable well, flushing or pumping is almost always required. In general, the ground-water standing in the well casing at the time of sample collection will be similar in quality to that in the surrounding aquifer or local groundwater, but it may not be representative. Accordingly, the well should be pumped (or bailed) prior to collecting a sample whenever possible.

For pump samples, a volume of water equal to three times that standing in the casing should be pumped from the well before taking the sample. Overpumping, which can result in dilution of the samples should be avoided. Depending on the geology, well design and other factors, some monitor wells will have a low yield. In such cases, the standing water should be evacuated and a sample collected upon recovery. Wells with relatively high yield can be sampled immediately after evacuation or bailing.

A pumping well will yield samples which incorporate water drawn from a volume adjacent to the well bore at the depth of the sampling tube orifice if the well is screened at that depth. Otherwise, the sample will represent water entering the well bore at the bottom of the casing or at the nearest screened interval. Therefore, these sampling configurations can preclude water quality information with depth and, since the pumped samples are obtained from a volume adjacent to the well

bore, dilution or concentration of the samples can occur as the well continues to be pumped. In these instances, grab samples are preferred over pumped samples.

If a monitoring well is sampled using a bailer, the standing water in the well should be bailed repeatedly until at least one (and preferably three) times the water volume standing in the well casing have been exchanged prior to sample collection.

Depth-to-water should be measured prior to sampling using a calibrated steel tape.

If surface pumps or hoses are used, the end of the hose must be at a sufficient depth that suction will not be broken as the level of water in the monitoring well is drawn down. However, the hose must be kept above the bottom so that sediments or solids will not be entrained and sample turbidity increased. Poorly-developed monitor wells may also promote increased turbidity. Bedrock wells are less likely to present problems of induced turbidity upon sampling than are wells screened in unconsolidated materials.

For those water quality parameters not subject to chemical change within a well casing in contact with the atmosphere, a pump sample may not be necessary (e.g. nitrate ( $\text{NO}_3$ )). However, in the case of volatile organics (e.g. benzene, trichloroethylene, toluene), concentrations can decrease for water standing in the well. Therefore, samples for volatile organics should be collected from depths several feet below the water level. If grab samples are taken for volatile organic analyses, methyl alcohol and distilled water should be used to thoroughly clean the sampler prior to reuse. The sampler should be washed first with the alcohol, then rinsed with distilled water; the alcohol must be allowed to volatilize before resuming sampling.

When sampling is done from a pump discharge, the flow rate should be reduced to a trickle to minimize agitation of the water and resulting loss of volatile compounds. When sampling for low levels of volatiles, care must be taken as to the source of water used in priming a centrifugal pump.

If several wells are to be sampled for volatiles, the least contaminated wells should be sampled first and the remaining wells sampled in order of increasing contamination. If the relative levels of contamination are unknown, clean water should be used to purge the pump following each well sampled in order to minimize cross-contamination of samples.

#### 6.13 Monitoring Well Installation and Design

A well drillers permit, as required by N.J.S.A. 58:4A-1 et seq., shall be obtained prior to the installation of any ground-water monitoring well. A clear and accurate record or base map providing the monitoring well locations, depths, elevations and achievable pumping rates must be kept at the facility by the owner or operator and be available to the Department.

Wells must be capped to prevent precipitation from entering the well bore hole or introduction of extraneous material and substances into the well which can invalidate analytical results. All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. Wells must be screened and packed with gravel or sand where necessary to enable sample collection at depths where appropriate. The annular space (i.e. the space between the bore hole and well casing) above the sampling depth must be sealed with a suitable material (e.g. cement grout or bentonite slurry) to prevent contamination of samples and groundwater.

The elevation of the top of the well casing for each ground-water monitoring well shall be established and said elevation shall be permanently marked on the well casing. The elevation established shall be in relation to the New Jersey Geodetic Control Survey datum. Each monitor well casing shall be permanently marked with a number to be assigned or approved by the Department.

#### 6.14 Exemptions

The following discharges do not require a DGW permit:

- (a) Discharges from single family septage tank systems or other single family subsurface sewage disposal systems which are installed and operating in conformance with the "Realty Improvement Sewerage and Facilities Act," N.J.S.A. 58:11-23 through 42 (commonly known as Chapter 199), and which are not regulated under N.J.S.A. 58:11-43 et seq., except as required by Subchapter 5. (This provision shall not exempt spills, leaks, overflows, or other unapproved or uncontrolled releases or dumping and therein the discharge shall require a NJPDES permit);
- (b) Any introduction of pollutants from nonpoint source agricultural and silvicultural activities, including runoff from orchards, cultivated crops, pastures, range lands, and forest lands but not discharges from concentrated animal feeding operations as defined in Section 3.4, discharges from concentrated aquatic animal production facilities as defined in Section 3.5, discharges to aqua-

culture projects as defined in Section 3.6, and discharges from silvicultural point sources as defined in Section 3.7; and

- (c) Return flows from irrigated agriculture.

profile and plan views showing local grades, elevations, construction, and materials specifications shall be submitted;

3. Designs for any storage facilities and a notarized affidavit from the responsible New Jersey licensed Professional Engineer that these facilities have been constructed according to the design specifications and will provide the required storage.
4. A final Procedures Manual which shall include:
  - i. Application Rates;
  - ii. Operational Considerations;
  - iii. Final site outlines on a plot plan (see (d)3.iii.) including restricted areas, buffer zones and approved application areas delineated into sub-areas for record keeping purposes;
  - iv. Record-keeping provisions;
  - v. Ground water monitoring provisions;
  - vi. Soil monitoring provisions;
  - vii. Sludge/septage quality monitoring provisions;
  - viii. A statement as to the ability to transfer to other disposal areas or options if sludge/septage applications must cease;
  - ix. Provisions for periodic maintenance of the facilities described in (e)2. and (e)3. above; and
  - x. Mode of transportation of sludge/septage to application site(s).

10:9 Land application of effluents by spray irrigation

- (a) In addition to the information required in Section 2.1, an applicant for a NJPDES permit for land application of effluents by spray irrigation shall submit information to the Department as follows:
    1. Existing dischargers shall submit the information in paragraphs (d) and (f) in accordance with the schedule in Section 10.1.
    2. New source dischargers shall submit:
      - i. The information in paragraphs (d) & (e) to apply for a final draft NJPDES permit in accordance with Section 7.2; and
      - ii. The information in paragraph (f) to apply for a final NJPDES permit in accordance with Section 7.2.
- \*Spray irrigation\* means a system for land application of wastewater, using sprinkler heads or nozzles as a method of application where the application rate is less than four (4) inches per week. (Note: where the application rate is greater than four (4) inches per week the applicant should comply with Section 10.11.)
- (b) Submission of information required in this section shall not exempt the applicant from compliance with any other filing requirements which apply to any treatment system of which the spray irrigation 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 in paragraph (d) are strongly recommended. If the applicant requires a DAC for any discharge to surface water at the facility, a pre-application conference with the Department must be scheduled by the applicant at the time of submission of the DAC application.
  - (d) The following information shall be submitted:
    1. Applicant's name, address, telephone number.
    2. Wastewater Characteristics - The origin and volume of the waste water must be described in the application.
      - i. Degree of treatment of the effluent must be specified.

ii. For existing facilities, a sufficient number of dated analyses of the raw and treated effluent shall be submitted to accurately characterize the composition and variability. For proposed facilities, estimates of the quantity and quality of the effluent, the treatment processes, and the anticipated load to the system shall be provided. This shall include a justification for all estimates.

(A) All analyses or estimates shall include the following parameters as a minimum:

Ammonium Nitrogen (NH<sub>4</sub>-N)  
Nitrate Nitrogen (NO<sub>3</sub>-N)  
Organic Nitrogen (N)  
Total Kjeldahl Nitrogen (TKN)  
Biochemical Oxygen Demand (BOD),  
Chemical Oxygen Demand (COD)  
Total Dissolved Solids (TDS)  
Suspended Solids (SS)  
pH  
Calcium (Ca)  
Magnesium (Mg)  
Sodium (Na)  
and Phosphorus (P)

(B) When requested by the Department other parameters shall be required, dependent on the anticipated quality of the effluent; including but not limited to:

Grease and Oil  
Metals  
Pesticides  
and other selected organics.

iii. The compatibility of the effluent for land disposal shall be substantiated by the applicant.

### 3. Site related information

1. Municipality and county in which the facility is located or is proposed to be located.

ii. A general plan to scale of the entire project area, showing the location of the spray field with respect to surface waters, roadways, existing wells, adjacent property ownership and all inhabited structures and facilities within one half (1/2) mile of the spray field boundaries. The well

inventory shall include 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 the map. A location or key map shall be included with the drawings.

iii. Topographic (contour interval 2 feet), geologic and soil (USDA) maps of the land disposal site and surrounding area sufficient to define conditions and evaluate the probable impact of the spray field on ground and surface waters.

iv. A water table map showing groundwater flow conditions beneath the disposal site and surrounding area, based on synoptic well data, as defined in these regulations, collected within eighteen (18) months prior to the date of application.

v. A plot plan to scale showing the spray field(s), storage facility(ies), all piping and discharge points, buffer zones, monitor wells, buildings and all attendant equipment.

#### vi. Soils evaluation

(A) A soil log described by a geologist or soil scientist prepared from each boring or backhoe pit at the existing or proposed site. Borings or pits shall reach a depth of twenty feet or to bedrock. A sufficient number of borings necessary to determine soil characteristics, depth to bedrock (where applicable), permeabilities and ground water elevations shall be drilled. Where, in the judgment of the Department, submitted information is insufficient to adequately evaluate the site, additional and/or deeper borings, supplemented by excavations, test pits or geophysical methods may be required.

Continuous samples shall be collected and described. Samples shall be classified using the U.S.D.A. Soil Texture Classification System.

(B) Depths to seasonally high water table shall be established and the methodology used in the determinations shall be specified.

4. Application Rates

Application rates and rest periods shall be specified. "Guidelines for Land Disposal of Effluents by Spray Irrigation" should be used in making these determinations.

5. Engineering Considerations:

- i. Engineering plans and specifications of the entire project, describing the proposed treatment process(es) and facilities, including equipment specifications, capacities and all related engineering data shall be submitted. This will include a specific listing of any and all building floor drains and their ultimate discharge point.
- ii. A calculation of surface water runoff across spray irrigation sites shall be prepared using a 25-year storm, with estimates of the effect of such runoff on treatment capacity, storage capacity, erosion, flooding and related details.
- iii. A description of existing and proposed storage facilities including discharge rates to the spray irrigation system, operating and cleaning schedule, construction details, capacities, estimates of bottom and side permeabilities and leakage calculations and a description of liner material and installation details shall be submitted.

6. Operational and Monitoring Considerations

- i. A description of the proposed cover crop and natural vegetation and a detailed long term vegetation or crop management program, including use or disposal of the crop, shall be provided.
- ii. A description of the spray irrigation system operation shall be submitted.
  - (A) Storage requirements shall be determined and method of determination shall be specified.
  - (B) An operation manual and maintenance schedule shall be submitted. "Guidelines for Land Disposal of Effluent by Spray Irrigation" should be used as a reference.
- iii. Monitoring wells and sites

- (A) Spray irrigation systems shall incorporate ground water and surface water quality monitoring locations approved by the Department.
- (B) The proposed location, design, and number of monitoring wells and sites, the constituents to be tested and the sampling schedule shall be submitted.
- (C) The design, installation and sampling of all monitoring wells and sites shall conform to Departmental specifications.
- (D) A well drillers permit, as required by N.J.S.A. 58:4A-1 et seq., shall be obtained prior to the installation of any groundwater monitoring well.
- (E) The well log for each ground water monitoring well installed shall be submitted with the initial analysis.
- (F) All monitoring wells installed per the requirements of the Department shall be properly maintained and kept in proper working order.
- (G) The elevation of the top of the well casing for each ground water monitoring well shall be established and said elevation shall be permanently marked on the well casing. The elevation established shall be in relation to the New Jersey Geodetic Control Survey datum.
- (H) Each monitor well casing shall be permanently marked with a number to be assigned by the Department.
- (I) The monitoring plan shall include at least one monitoring well located up-flow of the spray field to define and monitor prevailing background ground water quality.
- (J) Water sample parameters shall be proposed by the applicant and approved by the Department. Background sample analyses shall be submitted prior to any utilization of the spray field(s) and shall be required prior to final design approval.

(K) A water sampling schedule shall be proposed by the applicant and reviewed and approved by the Department.

(L) A statement of the depth to seasonally high or other water table and methodology used in the determination of such shall be submitted.

In no case shall less than three monitor wells be located at a facility. The number of wells, their design and location shall remain subject to Departmental approval, and must be of sufficient number to define the ground-water hydrology of the site.

(e) A request for endorsement shall be submitted in accordance with Section 2.1(j).

(f) The following information shall also be submitted:

1. Any further site modifications required as a result of Department review.
2. Final site outlines on a plot plan including restricted areas, buffer zones and approved application areas delineated into sub-areas for record keeping purposes.
3. Final ground and surface water monitoring provisions, parameters, and schedules.
4. Proposed record-keeping system.
5. Final plans and specifications, an operations and maintenance manual, and proposed schedules for the submission of all required information to the Department.
6. A notarized affidavit from the responsible New Jersey licensed Professional Engineer that these facilities have been constructed according to the design specifications and will function properly as designed.

#### 10.10 Land application of effluents by overland flow

(a) In addition to the information required in Section 2.1, an applicant for a NJPDES permit for land application of effluents by overland flow shall submit information to the Department as follows:

1. Existing dischargers shall submit the information in paragraphs (d) and (f) in accordance with the schedule in Section 10.1.

2. New source dischargers shall submit:

i. The information in paragraphs (d) and (e) to apply for a final draft NJPDES permit in accordance with Section 7.2; and

ii. The information in paragraph (f) to apply for a final NJPDES permit in accordance with Section 7.2.

"Overland flow" means the controlled discharge, by spraying or other means, of effluents onto a sloping land with a large proportion of the wastewater appearing as runoff. As the effluent flows over the land, the suspended solids are filtered out and the organic matter is oxidized by the bacteria living in the vegetative litter.

(b) Submission of information required in this section shall not exempt the applicant from compliance with any other filing requirements which apply to that overland flow site, to any treatment system of which the overland flow 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 in paragraph (d) are strongly recommended. If the applicant requires a DAC for any discharge to surface water at the facility, a pre-application conference with the Department must be scheduled by the applicant at the time of submission of the DAC application.

(d) The following information shall be submitted;

1. Applicant's name, address, telephone number;

2. Wastewater Characteristics - The origin and volume of the wastewater shall be described in the application.

i. Degree of treatment of the effluent shall be specified.



TAB NO. 9

90-DAY CONSTRUCTION PERMIT ACT

## 90-DAY CONSTRUCTION ACT

The "90-Day Act" or Executive Order No. 57 was signed into law by Governor Brendan T. Byrne on October 23, 1975. Its main purpose is to insure that the Department of Environmental Protection processes certain permit applications in a timely manner and provides for the assessment of fees to cover the cost of this service.

Permits that are covered by the Act are listed on the attached "Standard Application Form (CP #1) Construction and Discharge Permits".

Requirements for a complete application of a NJPDES project is covered on Page 6 of the 1983 NJDEP Bulletin (attached) covering the procedures for submission of the CP #1 application form. Of specific interest to the permit requirements for the construction and operation of a Sewage Package Treatment Plant are: the submittal of Supplement Sheet NJPDES - WQM #1, endorsement of item # 11 by the applicant and Endorsement E of the CP #1 and completion of Form WQM-3 if endorsements from owners, agents, municipalities, or publicly-owned treatment works are required pursuant to N.J.A.C. 7:14-2.1(J). In addition discharge of the treatment plant effluent by spray irrigation will require a separate CP #1 permit application.

STANDARD APPLICATION FORM CP #1



State of New Jersey  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

FOR OFFICIAL USE

STANDARD APPLICATION FORM (CP # 1)  
CONSTRUCTION AND DISCHARGE PERMITS

READ REQUIREMENTS  
PLEASE TYPE OR PRINT

1. Applicant/Owner \* \_\_\_\_\_ Telephone ( ) \_\_\_\_\_

Permanent Legal Address \_\_\_\_\_

City or Town \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

2. Location of Work Site \_\_\_\_\_

Name of Facility, if applicable \_\_\_\_\_

Street/Road \_\_\_\_\_

Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_

City or Town \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Municipality \_\_\_\_\_ County \_\_\_\_\_

3. If applicable, give name of: Engineer/Surveyor/Well Driller/Geologist/Soil Scientist (Specify).

Name \_\_\_\_\_ N.J. License No. \_\_\_\_\_

Name of Firm, if employee \_\_\_\_\_

Address \_\_\_\_\_ County \_\_\_\_\_

Municipality \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Telephone ( ) \_\_\_\_\_

4. This is an application for \_\_\_\_\_ Permit  
(Name of permit, certification, approval or exemption. See Item 9. Next Page.)

5. Fee is attached (If applicable). \$ \_\_\_\_\_  
(Provide explanation of how fee was calculated. Read Requirements Section of Standard Application booklet.)

6. Estimated construction cost of project:

a. \$ \_\_\_\_\_ total cost of the project.

b. \$ \_\_\_\_\_ portion for which this permit is requested.

7. I have included certifications of any public notifications. Yes \_\_\_\_\_ No \_\_\_\_\_

8. If applicable:

(For Waterfront Development and Stream Encroachment applications, 8c. must be completed.)

a. Source of Water Supply \_\_\_\_\_

b. For Treatment at (Water Treatment Plant) \_\_\_\_\_

c. Stream, Waterway, Pond or Lake \_\_\_\_\_

d. Wastewater Treatment Facility \_\_\_\_\_

\* Applicant/Owner must be the individual or municipality, public agency, utility, company, industry who will be the eventual owner and operator of said facility (sewer extension or treatment works) when completed.

9. Have any other applications for this site/project been submitted, or have any state permits been issued for this project? (If yes, indicate status and project number below.)

No ..... Yes ..... Decision .....

PERMIT TYPE	(Use additional sheets if necessary.)	APPLICATION STATUS	PROJECT #
		PENDING - APPROVED	
9.1	CAFRA	_____	_____
9.2	Waterfront Development (Riparian)	_____	_____
9.3	Wetlands	_____	_____
9.4	Purchase Water	_____	_____
	Diversion:		
9.5	Divert Water Supply for Public Use	_____	_____
9.6	Divert Surface Waters for Private Use	_____	_____
9.7	Divert Subsurface/Percolating Water for Private Use	_____	_____
9.8	Well Drilling	_____	_____
9.9	Permanent Water Lowering	_____	_____
9.10	Temporary Water Lowering	_____	_____
9.11	Construct/Modify, Operate Public Potable Water Works	_____	_____
9.12	Connection between an approved water supply and non-approved supply	_____	_____
9.13	Water Quality Certification	_____	_____
9.14	Construct/Repair Dam	_____	_____
9.15	Stream Encroachment	_____	_____
9.16	Sewer Systems: Collectors, Pump Station, etc.	_____	_____
9.17	Exemption from Sewer Ban	_____	_____
9.18	New Jersey Pollutant Discharge Elimination System (Specify)	_____	_____
9.19	Solid Waste Permits (Specify)	_____	_____
9.20	Air Quality Permits (Specify)	_____	_____
9.21	Delaware and Raritan Canal Review Zone "Certificate of Approval"	_____	_____
9.22	Pinelands Certificate	_____	_____
9.23	Other State agencies' permits	_____	_____
9.24	Local Permits	_____	_____
9.25	Federal Permits	_____	_____

10. Brief Description of the Proposed Project and Intended Use:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

11. I hereby certify that the information furnished on this application (and the attachments) is true. I am aware that false swearing is a crime in this State and subject to prosecution.

\_\_\_\_\_  
Type: Name and Date

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Type: Position

\_\_\_\_\_  
Date

ENDORSEMENTS

SOME PERMIT APPLICATIONS REQUIRE SPECIFIC ENDORSEMENTS OF OWNERS, AGENTS, MUNICIPALITIES, ETC. ENDORSEMENTS MAY BE REQUIRED FOR YOUR PERMIT.

VERIFY THE NEED FOR ENDORSEMENTS IN THE "REQUIREMENTS" SECTION OF THE STANDARD APPLICATION FORM CP #1 BOOKLET OR WITH THE APPROPRIATE DEP AGENCY.

\*\*\*\*\*

**A. PROPERTY OWNER'S CERTIFICATION\*†**

I hereby certify that \_\_\_\_\_  
*Property Owner's Name*

is the owner of the property upon which the proposed work is to be done. This endorsement is certification that the owner grants permission for the conduct of the proposed activity.

In addition, the aforementioned property owner shall certify:

- 1. Whether any work is to be done within an easement — Yes \_\_\_\_\_ No \_\_\_\_\_  
*(initial) (initial)*
- 2. Whether any part of the entire project (i.e., pipeline, roadway, cable, transmission line, etc.) will be located within property belonging to the State of New Jersey.  
Yes \_\_\_\_\_ No \_\_\_\_\_  
*(initial) (initial)*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*Type or Print Name and Address of Owner,  
if different from Item 1 on Page 1*

\_\_\_\_\_ *Date*

\_\_\_\_\_ *Signature of Owner*

\* Not required for Sewer System Application.  
† Required for the Land Application of Sludge, Septage or Compost.

**B. APPLICANT'S AGENT**

I, the applicant (name) \_\_\_\_\_  
authorize to act as my agent/representative in all matters pertaining to my application the following person:

Name \_\_\_\_\_ Phone \_\_\_\_\_  
 Address \_\_\_\_\_ County \_\_\_\_\_  
 City or Town \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_  
 Occupation/Profession \_\_\_\_\_

\_\_\_\_\_ *Signature of Applicant*

**AGENT'S CERTIFICATION**

Sworn before me  
this \_\_\_\_\_ day of  
\_\_\_\_\_ 19 \_\_\_\_\_

I agree to serve as agent for the above-named applicant

\_\_\_\_\_  
*Notary Public*

\_\_\_\_\_  
*Signature of Agent*

**C. PROPER CONSTRUCTION AND OPERATION CLAUSE (Sewer Extensions, Treatment Works Approval, Water Works)**

I, the applicant, agree that the works will be properly constructed and operated in accordance with the engineering plans and specifications, as approved, and the conditions under which approval is granted by the State Department of Environmental Protection.

\_\_\_\_\_  
*Signature of Applicant*

**D. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS AND ENGINEER'S REPORT**

I hereby certify that the engineering plans, specifications and engineer's report applicable to this project comply with the current rules and regulations of the State Department of Environmental Protection with the exceptions as noted.

\_\_\_\_\_  
*Signature of Engineer*

\_\_\_\_\_  
*Type: Name and Date*

PROFESSIONAL ENGINEER'S  
EMBOSSSED SEAL

\_\_\_\_\_  
*Position, Name of Firm*

**E. OWNER'S COMPLIANCE WARRANT (NJPDES ONLY)**

I, the owner, hereby agree that any treatment works constructed to meet the NPDES/NJPDES permit discharge limits will be properly constructed and operated to meet those limits. I also warrant that the discharge(s) will meet the effluent limitations as described in the NPDES/NJPDES permit, as issued.

\_\_\_\_\_  
*Signature of Owner*

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Date*

**NJDEP BULLETIN NJPDES**

**(Section 6)**



# State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION



## STANDARD APPLICATION FORM CP # 1 CONSTRUCTION RELATED AND DISCHARGE PERMITS (Listed on Page 2)

DEC 5 1983

**LEE T. PURCELL  
ASSOCIATES**

### GENERAL INFORMATION: READ CAREFULLY

- I. **CONSTRUCTION RELATED AND DISCHARGE PROJECTS** - The attached form is to be used for permit applications, certifications, approvals, exemptions or inquiries for construction related and discharge projects. Applicants should comply with specific rules and regulations of the appropriate agency(ies) of the Department of Environmental Protection (DEP) for each permit. Copies of rules and regulations are available from the specific agencies indicated herein. REQUIREMENTS for specific permits which are essential for the submission of a complete application can be found in this booklet. Permit-specific contact phone numbers and addresses are included. FOLLOW REQUIREMENTS - After reading this general information and the requirements section for specific permits, an applicant should complete the CP # 1 form and appropriate endorsements for specific permits, and submit same with required technical information to the appropriate agency of the Department. (Read Submission on Page 8.) TECHNICAL OR ENGINEER'S REPORT - In order for some applications to be considered complete, they must be accompanied by appropriate technical information, drawings, engineer's reports, specifications, maps, etc. prepared by a geologist, soil scientist or a New Jersey licensed professional engineer or land surveyor (as provided by law.)
- II. **MORE THAN ONE PERMIT** - When a project requires more than one type construction permit, in some cases an approval of one permit shall be conditioned on the applicant obtaining approval on the remaining necessary permits. A SEPARATE APPLICATION IS REQUIRED FOR EACH PERMIT - This requirement is not excessive or duplicative. It is for the benefit of the applicant, since compliance enables the "simultaneous" processing of applications. Separate applications reduce processing time for projects which require inter-agency reviews and comments, and for complex projects which require more than one permit. Applicants may submit "clear" photo-copies of the completed application form for multi-permit projects. However, applicants should be sure on each photo-copy application for a multi-permit project to specify Items # 4, # 5 and # 6 (permit name, fee and cost data.)
- III. **ASSISTANCE** - The respective agencies of DEP will provide assistance to the applicant in completing the forms and meeting the requirements in order to submit a "complete application". In order to avoid unnecessary inconvenience, lost time and expense, and insure that all necessary material will be submitted, the applicant should: 1.) whenever possible, resolve problems on the phone; numbers are listed on the next page, or 2.) when necessary, set up an appointment for a pre-application conference with the appropriate agency. It is advisable on complex projects for an applicant to arrange for an optional pre-application conference. A PRE-APPLICATION CONFERENCE (optional) is an informal proceeding to allow the applicant to discuss his project concept with the Department staff and to allow the Department of Environmental Protection to inform a potential applicant of current statutes, rules and regulations, application procedures, and policies and guidelines of permit programs.
- IV. **CERTIFICATION** - It is also the obligation of the applicant to certify that the information furnished on this application (and its attachments) is true. False swearing is a crime in the State of New Jersey and subject to prosecution. IT IS THE APPLICANTS RESPONSIBILITY TO OBTAIN ALL FEDERAL, STATE AND LOCAL PERMITS AS REQUIRED BY LAW.

\*\*\*\*\*

Division of Water Resources  
1474 Prospect Street  
CN 029  
Trenton, N.J. 08625

Division of Coastal Resources  
Room 711, Labor & Industry Bldg.  
CN 401  
Trenton, N.J. 08625

Division of Waste Management  
32 East Hanover Street  
CN 027  
Trenton, N.J. 08625

Bureau of Air Pollution Control  
Division of Environmental Quality  
Room 1110, Labor & Industry Bldg.  
CN 027  
Trenton, N.J. 08625

Bureau of Freshwater Fisheries  
Div. of Fish, Game & Wildlife  
P.O. Box 394  
Lebanon, N.J. 08833

Delaware and Raritan Canal Commission  
25 Calhoun Street  
CN 402  
Trenton, N.J. 08625

## CONSTRUCTION RELATED AND DISCHARGE PERMITS

INCLUDES: PERMITS, APPROVALS, CERTIFICATIONS, REGISTRATIONS, ETC.

(N.J. Statute Citations Indicated)

### I. DIVISION OF COASTAL RESOURCES

- Coastal Area Facility Review Act (CAFRA) (N.J.S.A. 13:19-1 et seq.) (609) - 292 - 0062
- Waterfront Development (N.J.S.A. 12:3-1 et seq.) (609) - 292 - 0061
- Wetlands (N.J.S.A. 13:9A-1 et seq.) (609) - 292 - 2896

### II. DIVISION OF WATER RESOURCES

Permit Coordination Officer (609) - 633 - 7026

#### A. Water Diversion

- Purchase Water (N.J.S.A. 58:1B-1 et seq., N.J.S.A. 58:22-1 et seq., N.J.S.A. 13:1) (201) - 638 - 6121
- Divert Surface or Groundwaters for Public or Private Use (N.J.S.A. 58:1A-1 et seq.) (609) - 292 - 2957
- Well Drilling (N.J.S.A. 58:4A-14 et seq.) (609) - 984 - 6831

#### B. Water Facilities

- Construct/Modify, Operate Public Potable Water Works (N.J.S.A. 58:12A et seq.) (609) - 292 - 5550
- Connection Between an Approved Water Supply & Non-Approved Supply (N.J.S.A. 58:12A et seq.)

#### C. Water Quality Certification

- Clean Water Act Amendments of 1977 (33 U.S.C. 1251, Sec. 401)  
State: New Jersey Water Pollution Control Act (NJSA 58:10-1 to 13) (609) - 633 - 7026

#### D. Flood Control

- Construct/Repair Dam (N.J.S.A. 58:4-2 et seq.) (609) - 292 - 4869
- Stream Encroachment (N.J.S.A. 58:16A-50 et seq.)

#### E. Sewer Systems: Collectors, Pump Station, etc.

- Exemption from Sewer Ban (609) - 984 - 4429

#### F. Discharge of Pollutants

- New Jersey Pollutant Discharge Elimination System (N.J.S.A. 58:10A-1 et seq.) (609) - 292 - 5262
- Municipal Surface Water Discharge; Industrial/Commercial Surface Water Discharge;  
Thermal Surface Water Discharge; Land Application of Sludge and Septage; Land  
Application of Industrial Waste Residues; Landfill Wastes; Spray Irrigation; Overland  
Flow; Rapid Infiltration; Surface Impoundment; Underground Injection; Indirect  
Discharge; Any Other Discharge to Surface Waters, Land, and/or Groundwaters

### III. DIVISION OF WASTE MANAGEMENT (N.J.S.A. 13:1E-1 et seq.)

Sanitary Landfill, Incinerator, Compost, Chemical Processing & Treatment Facility, Closure  
Approval, Resource Recovery, Transfer Station, Shredder, Baler, Sludge, Disruption, Other

**NOTE:** Request "specific" technical application forms for hazardous waste permits  
from this division. (609) - 292 - 6724

### IV. AIR QUALITY PERMITS (N.J.S.A. 26:2C-9.2 et seq.)

- Emission equipment/control apparatus for air contaminants
- Control apparatus/equipment for storage/transfer of service station fuels

**NOTE:** Request "specific" technical application forms from the Bureau of  
Air Pollution Control. This CP # 1 form is not used for air quality  
permits which are on a computerized system. (609) - 292 - 6716

### V. DELAWARE AND RARITAN CANAL COMMISSION (N.J.S.A. 13:13A-1 et seq.)

Review Zone "Certificate of Approval" (609) - 292 - 2101

### DIVISION OF FISH, GAME AND WILDLIFE

- Water Lowering (201) - 236 - 2118
- Permanent (N.J.S.A. 23:5-29 and N.J.S.A. 58:4-9)
- Temporary (N.J.S.A. 23:5-29)

## REQUIREMENTS: FOR A COMPLETE APPLICATION

### I. DIVISION OF COASTAL RESOURCES

REQUIREMENTS FOR A COMPLETE APPLICATION FOR PERMITS: WETLANDS, WATERFRONT DEVELOPMENT (RIPARIAN), AND CAFRA (COASTAL AREA FACILITY REVIEW ACT) ARE AS FOLLOWS:

#### A. Inquiries About Permit Applicability

- Submit:
1. A completed Standard Application Form CP # 1. Answer all items except # 5. No fee or endorsements.
  2. Site location map.
  3. Site plan/drawing.
  4. Inquiries to the following address:

Bureau of Coastal Enforcement and Field Services (DEP) 1433 Hooper Avenue Toms River, N.J. 08753	Northern Shore  Southern Shore Waterfront	(201) 341-3977 (609) 292-5120 (609) 652-0004 (609) 292-8203
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#### B. Pre-application Conferences; Permit Applications

Bureau of Coastal Project Review (DEP) Labor & Industry Bldg., Room 711 CN 401, Trenton, N.J. 08625	Northern Southern Waterfront	(609) 292-0062 (609) 292-0061 (609) 292-8202
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Pre-application Conference (Optional): The purpose of this informal conference is to discuss project idea, site location, Department's rules, Environmental Impact Statement (EIS) requirements and Coastal Resource and Development Policies. To request a conference submit request with project summary and site location map to the Bureau's Region in which the project will be located.

- Notes:**
- The Army Corps of Engineers must be notified of application for Wetlands and Waterfront Development permits. Phone: Army Corps – Phila. (215) 597-2812; N.Y. (212) 264-0185
  - On December 9, 1982, the U.S. Army Corps of Engineers issued a general permit GP17. This permit authorizes work and structures such as bulkheads, breakwaters, pipes, pilings, docks, rip-rap, dredging and filling in approved substantially developed tidal artificial lagoons within the State of New Jersey. Any person who wishes to perform work under the terms and conditions of the general permit need only apply to the Bureau of Coastal Project Review.
  - Fill or hydraulic spoil disposal projects which require a Waterfront Development permit will also require a Water Quality Certification under Section 401 of the Federal Clean Water Act. The application for the Waterfront Development permit shall constitute a joint application for both the Waterfront Development permit and the Water Quality Certification.

#### C. Permit Application Submission

1. Items common to all Wetlands, Waterfront Development and CAFRA applications.
  - a. Completed Standard Application Form CP # 1. Answer all items and complete endorsement A and B.
  - b. Permit review fee (see attached fee schedule) payable to Treasurer, State of N.J., Env. Services Fund.
  - c. Evidence that copies of the CP # 1 have been forwarded to the County and Municipal Planning Boards and Environmental Commission, if one exists, County & Municipal Clerks, and U.S. Army Corps of Engineers.
  - d. Statement of compliance with the Coastal Resource and Development Policies, N.J.A.C. 7:7E-1.1 et seq.
  - e. Evidence of tidelands ownership (Permit applications cannot be accepted for filing without this evidence).
2. See attached instruction sheets for completing Wetlands, Waterfront Development and CAFRA applications.
  - a. Waterfront Development - instructions for completing a Waterfront Development Permit application.
  - b. Wetlands - N.J.A.C. 7:7A-1.1 et seq.
  - c. CAFRA - N.J.A.C. 7:7D-2.0 et seq.

## REQUIREMENTS: FOR A COMPLETE APPLICATION

### II. DIVISION OF WATER RESOURCES

#### Preliminary Inquiries on required permits, approvals, etc.

##### Submit:

1. Completed Standard Application Form CP # 1. Answer all items except #5. No fee required.  
No endorsements or notarization necessary.
2. Site location map.
3. Drawing(s).
4. Inquiries should be addressed to:  
Permit Coordination Officer (609) 633-7026  
Division of Water Resources  
1474 Prospect Street  
CN-029, Trenton, New Jersey 08625

#### Approval to Purchase Water

Submit completed Standard Application Form CP # 1. Answer all items (except 5 and 6) and endorsements. Notarize.

#### Water Diversion Permits

##### Submit:

1. Completed Standard Application Form CP # 1. Answer all items (except 5, 6 and 7), and endorsements as indicated in A, B and C below. No notarization necessary.
2. Request appropriate forms indicated below from Division of Water Resources and return with the CP # 1 and all information requested.
  - A. Divert Surface Waters for Private Use – Submit: CP # 1, Endorsement D, when applicable, and Form DWR-082.
  - B. Divert Subsurface or Percolating Waters for Private Use – Submit: CP # 1, Endorsement D and Form DWR-083.
  - C. Divert Surface/Subsurface/Percolating Waters for Public Water Supply – Submit: CP # 1, (Endorsement B, when applicable, and D) and Forms DWR-084 and DWR-085.

#### Well Drilling Permit

- Well drilling permit applications should be submitted by a licensed New Jersey well driller. (Form DWR-133)
- Each permit application under 70 gallons per minute shall be accompanied by a fee of \$10.
- Each permit application of over 70 gallons per minute shall be accompanied by a fee of \$25.
- Check made payable to State of New Jersey – Well Permits.

Address: Water Allocation  
CN-029  
Trenton N.J. 08625

#### Permits for Water Works

- A. Construct and/or Operate Water Works
- B. Modify Water Works

##### Submit:

1. Completed Standard Application Form CP # 1. Answer all items (except 5 and 7) and endorsements C and D.  
No need to notarize.
2. Drawings, specifications and Engineer's Report according to Rules and Regulations.  
(N.J.S.A. 58:12A-1 et seq. and N.J.A.C. 7:10-1.1 et seq.)

## REQUIREMENTS: FOR A COMPLETE APPLICATION

### II. DIVISION OF WATER RESOURCES (continued)

#### Physical Connection Between an Approved Water Supply and a Non-Approved Supply

Submit:

1. Completed Standard Application Form CP # 1. Answer all items and endorsements. No fee.
2. Approval of Local Board of Health.

#### Water Quality Certification (For projects not requiring a Division of Coastal Resources Waterfront Development permit)

1. Completed Standard Application Form CP # 1. No fee.
2. Site location map (USGS or DEP Quadrangle).
3. Site plan showing the existing and proposed conditions of the lot(s) including adjacent lots for reference (Engineering plans showing proposed work details may be required).
4. Color photographs of site(s) with explanation of the views shown.
5. For projects involving dredge activities (in addition to the above)
  - a. Indicate methods of:
    - (1) dredging (clam shell, drag line, etc.);
    - (2) turbidity/sedimentation control during dredging operations (silt screens, curtains, etc.);
    - (3) dewatering spoils prior to disposal; and
    - (4) disposal of solid or liquid waste generated.
  - b. Indicate the quantity of dredge spoils and the sites of dredging, dewatering and spoils disposal. (Chemical analysis of the dredge spoils may be required.)
6. For projects involving fill activities (in addition to the above)
  - a. Indicate the source, quantity and characteristics of the fill material.

#### Permits to Construct/Repair a Dam

Submit:

1. Completed Standard Application Form CP # 1. Answer all items and endorsement. No need to notarize. No fee.
2. Request Form DWR- 087 from the Bureau of Flood Plain Management (DWR) and return it with the CP # 1 application form and all information requested.

#### Permits for Stream Encroachment

Submit:

1. Completed Standard Application Form CP # 1. Answer all items and endorsements. No need to notarize.
2. Request the Engineering Data Sheet (Form DWR- 086), from the Bureau of Flood Plain Management and return it with the CP # 1 application form and all information requested.
3. Enclose fee payable to Treasurer, State of New Jersey, Environmental Services Fund. (NJAC7:1C-1.5)
4. Provide breakdown of how fee was calculated.
5. For major projects only: Notification to local agencies by certified mail (return receipt required).

#### Sewer Systems (Collectors, Pump Stations, Extensions, Interceptors, etc.) Construct, Change, Alter

Submit:

1. Two copies of Standard Application Form CP # 1, signed and sealed. Answer all items and endorsements.
2. Fee payable to Treasurer, State of New Jersey, Environmental Services Fund. (NJAC 7:1C-1.5)
3. Notifications to local agencies by certified mail (return receipt required).
4. One copy of Engineer's Report with cost estimate signed and sealed.
5. Two sets of construction specifications signed and sealed. (One set for Sewer Extensions)
6. Two sets of final plans and profiles signed and sealed on each sheet. (Preliminary plans will not be accepted) (One set for Sewer Extensions).
7. Resolutions and endorsements from appropriate municipalities and sewer authorities (Use Form WQM-3.)
8. Dry Sewer Affidavit (applicable if required for project location).
9. Certification of approval (to operate) from professional engineer (Form WQM-3)

#### Exemption From Sewerage Ban

Submit:

1. Completed Standard Application Form CP # 1. Answer items 1,2,4,7,8,10 and 11. No endorsements or notarization necessary. (Letter from Municipal authorities; comply with rules and regulations NJAC 7:9-13.1).
2. 201 Plan Map.

## REQUIREMENTS: FOR A COMPLETE APPLICATION

### NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

Submit:

1. Completed Standard Application Form CP #1.
  - a. Answer all items except 5, 6, 7.
  - b. Item 8a. (Sources of Water Supply) must be answered for all NJPDES applicants, except those that discharge sanitary/domestic wastewater or stormwater runoff.
  - c. "Endorsement E" must be signed by responsible official.
2. Complete Supplement Sheet NJPDES - WQM 1. Answer all items.
3. U.S. Geological Survey Topographic Map - 7.5 minute quadrangle series which extends one mile beyond the property boundaries of the source, which depicts:
  - a. The facility and the exact location of its intake and discharge structures and points
  - b. Each of the facilities hazardous waste treatment, storage, or disposal facilities
  - c. Each well where fluids from the facility are injected underground
  - d. Those wells, springs, and other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant in the map area
4. For a pretreatment permit (indirect) disregard the topographic map and instead attach a key map of discharge points to the P.O.T.W. (Public Owned Treatment Works)
5. Item # 11 and Endorsement E of the CP #1 must be signed:
  - a. For a corporation, by a Principal Executive Officer of at least the level of Vice President
  - b. For a partnership or sole proprietorship, by a general partner or the proprietor respectively
  - c. For a municipality, state, federal, or other public agency, by either a Principal Executive Officer or Ranking Elected Official
6. Fill out Form WQM-3 if endorsements from owners, agents, municipalities, or publicly owned treatment works are required pursuant to N.J.A.C. 7:14-2.1(J). (Form is available from office listed below.)
7. Complete NJPDES technical form for the category of discharge to be permitted.
8. Send required information to:

Office of Permits Adm, Water Quality Mgt. Element,  
Div. of Water Resources, CN-029, Trenton, N.J. 08625

Attn: NJPDES Applications

### III. DIVISION OF WASTE MANAGEMENT

#### A. Preliminary Inquiries and Pre-application Conferences

In order to save time and money, applicants should READ CAREFULLY and follow these recommended steps:

1. It is strongly recommended (although optional) that an applicant request in writing a pre-application conference.
2. Provide in the request the following information: a general description of the type (listed in Note below) and location of proposed facility, its types of and rates of waste to be accepted, the planned capacity of facility (or life in years), identify who will be served by the facility and origin of waste (describe the types and amounts of materials which will require further processing and expected disposition of produced residues.)
3. Request an "application package" from the Division of Waste Management. The application package includes:
  - a.) the Standard Application Form CP # 1, b.) its DWM Supplement, c.) Engineering Checklists\*, and d.) Rules and Regulations (NJAC 7:26-1 et seq.).
4. Inquiries should be addressed to:

Bureau of Technical Services, Division of Waste Mgt. (609) 292-6724  
32 East Hanover Street, CN-027, Trenton, N.J. 08625

#### B. Final Application should include the submission of:

1. Completed Standard Application Form CP # 1. Answer all items and endorsements (except C and E).
2. DWM Supplement to Standard Application Form CP # 1.
3. Engineering requirements on the project-specific engineering checklist\* and any supplements thereto.
4. Enclose fee payable to "Treasurer, State of New Jersey," \$50 registration fee and \$500 engineering review fee (NJAC 7:26-4 et seq.).

**\*Note:** Engineering checklists include: Sanitary Landfill, Incinerator, Compost, Chemical Processing and Treatment Facility, Resource Recovery Facility, Transfer Station, Shredder, Baler, Sludge, Disruption, etc. A complete application must be filed for each category involved.

## REQUIREMENTS: FOR A COMPLETE APPLICATION

### IV. AIR QUALITY PERMITS (See Page 2)

### V. DELAWARE AND RARITAN CANAL COMMISSION

REQUIREMENTS FOR A COMPLETE APPLICATION FOR A D&R CANAL COMMISSION REVIEW ZONE  
"CERTIFICATE OF APPROVAL" NJSA 13:13A-1 et seq.

Submit:

- 1) Completed Standard Application Form CP # 1. Answer only items: 1, 2, 3, 4, 9 and 11.
- 2) Information as required in Canal Commission's Regulations on pages 14 through 18.
- 3) Inquiries to the following address:

Delaware And Raritan Canal Commission (609) 292 - 2101  
25 Calhoun Street, CN 402, Trenton, N.J. 08625

### VI. DIVISION OF FISH, GAME AND WILDLIFE

WATER LOWERING PERMIT (Permanent and Temporary)

Submit (For each lake, river, or stream to be lowered):

- 1) Completed Standard Application Form CP # 1. Answer all items (except 5, 6, 7) and Endorsements A and B. No need to notarize.
- 2) Completed Water Lowering Application Data Sheet (Request Data Sheet and Water Lowering Guidelines from the Bureau of Freshwater Fisheries).

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### INFORMATION ABOUT PERMITS

#### Public Law 1970, Chapter 33 and Recent History

The Department of Environmental Protection was formed on Earth Day, April 22, 1970. Through Chapter 33 of P.L. 1970 the New Jersey Legislature mandated that "The Department shall formulate policies for: Conservation of Natural Resources, Promotion of Environmental Protection, and Prevention of Pollution of the Environment." In recent years there have been numerous oil spills, fish kills, and problems with hazardous wastes and leaking landfills, contaminated air and water. Environmental crises have brought about intensified interest in ecology and the economy. Since DEP has the legal responsibility and the authority to protect the State's air, water, and land resources, as well as the public safety, health and welfare, it does so by issuing "permits".

Permitting is the method by which the government carries out its public policy of protecting the environment and the citizenry while permitting orderly economic development. Efforts to protect the environment and our citizens have come into conflict with property rights, economic development and the need for jobs. Some environmental groups complain the government has not done enough to protect the environment, while some labor and business groups believe regulation has been excessive and slowed economic growth.

Changes in laws and rules and regulations are sometimes initiated by the Department of Environmental Protection; but changes are sometimes mandated by the Courts. However, many changes are initiated by "the Public" exercising its Constitutional right to participate in its own governance by influencing the Legislature, the Governor and other governmental bodies having regulatory jurisdiction (federal, state, local governments).

Processing over 20,000 permits per year, DEP has most of the construction and/or discharge permits issued by State government. Permits are usually processed on a "first-in/first-out" basis. Complex projects which require public hearings, environmental impact statements and/or federal approvals take longer than average processing time. "Minor" projects, meeting specific criteria, can usually be expedited (if an applicant so chooses). Expedited processing is sometimes referred to as "Over-the-Counter Processing". At times, Departmental priorities are affected by environmental crises which temporarily extend processing time. Constraints which affect processing time include: staffing, turnover, experience, workload, project complexity, program funding, Civil Service Laws, and federal and local government considerations.

Deficiencies include: no fee or wrong fee, no application form or incomplete form, or unsigned application, non-compliance with rules and regulations, on-going revisions of plans (preliminary drawings), unsigned or not-sealed drawings, inadequate drawings, local agencies' notifications missing, no resolutions/endorsements, no engineers reports or specifications, no dry sewer affidavit where required, no environmental impact statement, engineering plan missing, planned construction in a floodplain, inadequate on-site sewage disposal, encroachment on wetlands, no provisions for handicapped persons in public facilities, no evidence of applicant's possession of a riparian lease, grant, or license; erroneous calculations, slopes, size of pipes, size of drainage areas, site location maps wrong or missing, etc.

**Reasons for "Rejection of Applications"** - More than 96% of all applications are eventually approved because the Department assists the applicant in complying with State laws and rules and regulations. However, approximately 33% of all projects submitted are initially rejected for deficiencies.

**SUBMISSION OF APPLICATION (TIME IS MONEY.)**

1. Detach from this Standard Application booklet the CP # 1 form, and
2. complete the CP # 1 form, including the endorsements and notarization, if indicated, and comply with all the 'Requirements' indicated herein for specific permit applications, and
3. if necessary, an applicant should phone the Department for assistance (phone list included), and
4. if necessary (for complex projects which may require several permits), it is recommended that applicants request optional pre-application conferences, and
5. submit the COMPLETE application package. (CP # 1 form and all other required data) to the appropriate DEP Division (addresses listed herein). Failure to comply with all requirements will cause delays for the applicant and/or rejection of the application for deficiencies.

**Note:** Add detail and supplemental sheets only if necessary. However, applicants should know that excessive or insufficient information increases processing time. Environmental Impact Statements and engineering drawings should be limited to the 'specifics' of a given permit application. (TIME IS MONEY.)

\*\*\*\*\*  
**U.S.G.S. TOPOGRAPHIC MAPS**

N.J. Dept. of Environmental Protection, Bureau of Collections and Licensing  
88 E. State St., (CN 402), Trenton, N.J. 08625 (609) 292-2506

\*\*\*\*\*  
**CHANGES TO RULES AND REGULATIONS**

Sources of Information:

- New Jersey Register (88 E. State St., Trenton, N.J. 08625)
- DEP permit review agencies (phone numbers on Page 2)
- State and public libraries

\*\*\*\*\*  
**"Revisions" of Permit Application Form and Review Procedures**

DEP is constantly striving to improve its permit activities through attempts to simplify, standardize and consolidate application forms and review procedures. There will be periodic revisions of the CP # 1 Form, its 'Requirements', and application processing/review procedures. Your suggestions are requested, and should be mailed to:

Division of Fiscal and Support Services  
Department of Environmental Protection  
88 East State Street, (CN 402)  
Trenton, New Jersey 08625

\*\*\*\*\*  
DEP encourages public participation in its many activities. This is both because DEP is so directly involved with the public welfare, and because active public support will help DEP to most effectively meet its obligations.

**ENVIRONMENTAL ABUSES / PROBLEMS / EMERGENCIES**

If you see something happen which damages our common environment, call the Environmental Action Line. IT IS ONLY FOR REPORTING ENVIRONMENTAL ABUSES AND EMERGENCIES.

**ENVIRONMENTAL ACTION LINE** (24 hour service/7days per week) (609) 292 - 7172

\*\*\*\*\*  
**DEP BULLETIN** - The Department of Environmental Protection issues a DEP Bulletin, an informational service which contains: Actions taken on Environmental Impact Statements, a Schedule of Public Hearings, a Calendar of Events of Interest, and a status listing of construction related applications, such as: waterfront development, wetlands, CAFRA, stream encroachments and sewer extensions. To be included on the mailing list, call (609) 292 - 9769, or write: Documents Distribution Center, CN 402, Trenton, New Jersey 08625.



TAB NO. 10  
SOLE SOURCE AQUIFER DESIGNATION  
AND THE  
BURIED VALLEY AQUIFER

BACKGROUND  
GROUNDWATER PROTECTION  
SOLE SOURCE AQUIFER DESIGNATION

In 1974, Congress passed the Safe Drinking Water Act, which in part provided that:

If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register. After the publication of any such notice, no commitment for federal financial assistance (through a grant, contract, loan guarantee, or otherwise), may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone, so as to create a significant hazard to public health, but a commitment for Federal Financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.

Section 1424(e)

BURIED VALLEY AQUIFER  
SOLE SOURCE AQUIFER DESIGNATION

Within the Passaic River Basin, the most productive and intensively used aquifers are the buried valley, or valley-fill

aquifers of the Central Valley of the Passaic River in northern New Jersey. (Report entitled, "Hydrogeology of the Buried Valley Aquifer System" by the Passaic River Coalition (PRC), dated 1983 is available from the Coalition at 246 Madisonville Road, Basking Ridge, N.J. 07920, Telephone (201) 766-7500).

The Buried Valley Aquifers form an extensive network of narrow channeled sand and gravel deposits through which large quantities of water flow. They are most heavily concentrated in eastern Morris County and western Essex County.

Aquifers supply the majority of water used in a number of these municipalities and serve a population in excess of 580,000 people and scores of industries. Intensive use of the aquifers, coupled with their high potential for contamination and loss of recharge, has culminated to the 1978 petition by the City of East Orange and the Passaic River Coalition to designate 80 square miles of "Buried Valley Aquifer System" as a Sole Source Aquifer in the basin (Appendix B, Exhibit 1 of the PRC Report), to a hearing on May 23, 1979 on this petition and finally on May 8, 1980 to EPA adopted designation of the Buried Valley Aquifers, including the addition of Stream Flow Source Zone as the Sole Source Aquifer designated Area within the Passaic River Basin.

The significance of the EPA Stream Flow Source Zone added to the aquifer designation is to provide further protection for the aquifer by prohibiting pollution of groundwater or surface water in the Stream Flow Source Zone by Federal projects which might eventually pollute the aquifer.

A listing of municipalities entirely or partially within the Sole Source Aquifer Designated Areas A & B for the Buried Valley follows:

- A. The Recharge Zone is defined by the outside boundary of the following municipalities: On the south--Bernards Township and Warren Township, on the east--Berkeley Heights, New Providence, Summit, Millburn, Livingston Township, Roseland, Essex Fells, Caldwell, West Caldwell and North Caldwell, on the north--Fairfield, and Montville, on the west--Parsippany-Troy Hills, Morris Township and Harding Township. Included within these perimeter communities are also the following: Passaic Township, Chatham, Chatham Township, Madison, Florham Park, Morristown, Hanover, East Hanover and Morris Plains.
- B. The Stream Flow Source Zone of the aquifer system lies within the boundaries of the Rockaway River Sub-basin, which, in turn, is part of the Passaic River Basin. This zone includes those portions of the sub-basin which ultimately drain to the recharge zone. The area encompasses all or part of the following municipalities: Bernardsville, Boonton Town, Boonton Township, Denville, Dover, Jefferson, Kinnelon, Lincoln Park, Mendham Borough, Mendham Township, Mine Hill, Mountain Lakes, Mount Arlington, Randolph, Rockaway Borough, Rockaway Township, Roxbury, Sparta, Victory Gardens and Wharton.

One can see from the attached map that approximately 90 percent of Rockaway Township lies within Area "B" Stream Flow Source Zone. Needless to say, extreme caution must be used when constructing any type of development in this zone.

approximately 1.75 acres of project land to the Town of Quincy for expansion of the town cemetery which adjoins the subject property on the south. No construction is planned other than perimeter fencing and access roads. Applicant proposes to remove the land from within the project boundary.

Application filed February 22, 1980, amended March 21, 1980.

Applicant proposes to convey by warranty deed with restrictions two parcels of project land (approximately two acres) to the New Rome Community Church and the Town of Rome for the expansion of the Church grounds and the Town Cemetery. No construction is proposed on either parcel of land.

Applicant proposes to remove the land from within the project boundary. The two parcels of land are located adjacent to the existing Church and cemetery grounds on the west side of County Highway Z, in the Town of Rome.

Application filed February 22, 1980.

Applicant proposes to convey by warranty deed with restrictions approximately 14 acres of project land to Anthony Farms for conversion to agricultural use. The farming company proposes to combine the subject land with the 140-acre adjoining parcel. The combined acreage will be devoted to irrigated agricultural use, by means of a center-pivot irrigation system. The proposed use of the land does not involve the installation of any permanent structures. The subject land lies within the Township of Monroe, west of 16th Avenue.

Application filed February 22, 1980.

Applicant proposes to convey by warranty deed with restrictions approximately six acres of land to Juneau County, to facilitate relocation of a county road. Approximately two acres of the land lies within the project boundary, the remaining four acres are part of lands the Applicant has proposed for addition to the project. Juneau County proposes to relocate a stretch of County Trunk Highway "G" so that a number of existing right-angle turns may be replaced with a new alignment featuring a long, gentle curve and scenic river overlook. The only permanent improvement planned on the subject lands is a blacktop surfaced County highway with graveled shoulders. The subject stretch of highway lies within the Town of Necedah.

Application filed February 22, 1980.

Applicant proposes to lease approximately 20 acres of project land and 1500 feet of shoreline to the Town of Monticello for a public park. The land, lying generally north of O'Dell's Bay, would be used for public recreation

purposes, such as swimming, picnicking, and parking. The only proposed structures are a small vault-type toilet facility, a foot bridge and parking barricades.

**Comments, Protests, or Petitions to Intervene**—Anyone desiring to be heard or to make any protest about these applications should file a petition to intervene or a protest with the Federal Energy Regulatory Commission, in accordance with the requirements of the Commission's rules of practice and procedure, 18 CFR 1.8 or 1.10 (1979). Comments not in the nature of a protest may also be submitted by conforming to the procedures specified in § 1.10 for protests. In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but a person who merely files a protest or comments does not become a party to the proceeding. To become a party, or to participate in any hearing, a person must file a petition to intervene in accordance with the Commission's Rules. Any comments, protest, or petition to intervene must be filed on or before June 9, 1980. The Commission's address is: 825 North Capitol Street, N.E., Washington, D.C. 20426. The application is on file with the Commission and is available for public inspection.

Kenneth Plumb,

Secretary.

[FR Doc. 80-14233 Filed 5-7-80; 8:45 am]

BILLING CODE 6450-85-M

## ENVIRONMENTAL PROTECTION AGENCY

[FR 1417-6]

### Aquifers Underlying Western Essex and Southeastern Morris Counties, N.J.; Determination

Notice is hereby given that pursuant to Section 1424(e) of the Safe Drinking Water Act (42 U.S.C. 300f, 300h-3(c); 88 Stat. 1660 et seq., P.L. 93-523) the Administrator of the Environmental Protection Agency has determined that the buried valley and bedrock aquifer system underlying the Central Basin of the Passaic River in western Essex and southeastern Morris Counties, New Jersey, is the principal source of drinking water for these counties and that, if the aquifer system were contaminated, it would create a significant hazard to public health.

#### Background

The Safe Drinking Water Act was enacted on December 10, 1974. Section 1424(e) of the Act states:

If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of the determination in the Federal Register. After the publication of any notice, no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.

On January 15, 1979 the City of East Orange, N.J. and Passaic River Coalition, Basking Ridge, N.J. petitioned and Administrator to designate the aquifer system underlying western Essex and southeastern Morris Counties, New Jersey, as a sole source aquifer under the provisions of the Act. A notice of receipt of this petition, together with a request for comments was published in the Federal Register March 29, 1979, 44 FR 18732. In response to the Notice and request for comments, written comments were received from both the public and private sectors. On May 23, 1979, the Environmental Protection Agency (EPA) held a public hearing in Roseland, N.J. to hear the views of persons interested in the Buried Valley System issue.

On the basis of the information which is available to this Agency the Administrator has made the following findings, which are the basis for the determination noted above:

(1) The Buried Valley Aquifer System is the sole or principal source of drinking water for approximately 600,000 people in western Essex and southeastern Morris Counties, New Jersey. In 1978, the system supplied approximately 42 million Gallons per Day (MGD) water. Current water supply treatment practice for public supplies is generally limited to disinfection for drinking purposes; with some plants capable of manganese removal. There is no alternative source of drinking water supply which could economically replace this aquifer system if it were contaminated.

(2) The Buried Valley Aquifer System is vulnerable to contamination through its recharge zone, particularly from septic tanks and, to a lesser extent, from leaching of discharges to streams and rivers in the recharge and streamflow source zones. Since ground water contamination can be difficult or impossible to reverse, and because this

aquifer is relied upon for drinking purposes by many people, contamination of the aquifer would pose a significant hazard to public health.

Section 1424(e) of the Act requires that a Federal agency may not commit funds to a project which may contaminate the aquifer system through a recharge or streamflow source zone so as to create a significant hazard to public health. The recharge zone is that area through which water enters into the aquifer system.

The area in which projects may be reviewed is the area encompassed by: (1) The boundary of the Buried Valley Aquifer Systems, and (2) its streamflow source zones.

The Buried Valley Aquifer System is the principal source of drinking water in southeastern Morris and western Essex Counties, New Jersey. The surface boundary of the aquifer's recharge zone is identical with the boundary of the aquifer.

The recharge zone is defined by the outside boundary of the following municipalities: On the south—Bernards Township and Warren Township, on the east—Berkeley Heights, New Providence, Summit Millburn, Livingston Township, Roseland, Essex Falls, Caldwell, West Caldwell and North Caldwell, on the north—Fairfield, and Montville, on the west—Parsippany-Troy Hills, Morris Township and Reading Township. Included within the perimeter communities are also the following: Passaic Township, Chatham, Chatham Township, Madison, Florham Park, Morristown, Hanover, East Hanover and Morris Plains.

The stream flow source zone of the aquifer system lies within the boundaries of the Rockaway River Sub-Basin, which, in turn, is part of the Passaic River Basin. This zone includes those portions of the sub-basin which ultimately drain to the recharge zone. This area encompasses all or part of the following municipalities: Bernardsville, Boonton Town, Boonton Township, Denveille, Dover, Jefferson, Kinnelon, Lincoln Park, Mendham Borough, Mendham Township, Mine Hill, Mountain Lakes, Mount Arlington, Randolph, Rockaway Borough, Rockaway Township, Roxbury Sparta, Victory Gardens and Wharton.

The information utilized in this determination includes: The petition, written and verbal comments submitted by the public, a detailed map of the area and independent analyses by EPA. All this information is available to the public and may be inspected during normal business hours at the office of Environmental Protection Agency, Region II, Water Supply Branch, 28

Federal Plaza, Room 24-130, New York, N.Y. 10007.

A copy of the above documentation is also available at the U.S. Environmental Protection Agency, Waterside Mall, Public Information and Reference Unit, Room 2922, 401 M Street SW., Washington, D.C. 20460.

EPA proposed national regulations for implementing Section 1424(e) of the Safe Drinking Water Act on September 29, 1977, 42 FR 51574. The proposed regulations contain procedures for review of Federal financially assisted projects which may contaminate aquifer systems designated as "sole or principal source" aquifers through the recharge zone so as to create a significant hazard to public health. Until their final promulgation, these regulations will be used as interim guidance for implementing a sole source program under Section 1424(e). Questions and comments concerning the possible effect of the regulations on federally assisted projects in the Buried Valley Aquifer System area should be directed to Region II, Environmental Protection Agency, Attn: Harry F. Smith, Jr., P.E., Chief, Water Supply Branch, U.S. Environmental Protection Agency, 20 Federal Plaza, New York, N.Y. 10007.

EPA, Region II, is working with the Federal agencies which intend, or may intend to fund projects in the area of concern to develop procedures for notifying EPA projects in the area which might contaminate the aquifer. EPA will evaluate such projects and, where necessary, will conduct an in-depth review, including soliciting public comments where appropriate. More stringent review criteria will be applied to those projects that have a greater potential for contaminating the aquifer, such as those located in the recharge zone.

Although the project review process cannot be delegated, the Regional Administration in Region II will rely to the maximum extent possible upon and existing or future State and local control mechanisms in protecting the southeastern Morris and western Essex Counties, New Jersey. Included in the review of any Federal financially assisted project will be coordination with the State and local agencies. Their determinations will be given full consideration and the Federal review process will function so as to complement and support State and local protection programs.

Dated: May 2, 1980.

Douglas M. Costlo,  
Administrator.

(U.S. Doc. No. 14245 Filed 5-7-80, 11 48 am)  
BILLING CODE 6560-01-M

[FRL 1407-3]

#### Clean Water; Data Collection Activities

The purpose of this notice is to identify data collection activities to be undertaken by the United States Environmental Protection Agency (EPA) under the authority of Section 308 of the Clean Water Act of 1977. The data will be used in developing effluent guidelines under Sections 301, 304, 306, and 307 of the Act.

These activities are subject of Office to Management and Budget (OMB) approval in accordance with OMB Clearance No. 158-R-0160. Under the terms of this Clearance, EPA publishes notices identifying such data collection activities in the Federal Register. Usually, notices are published biannually summarizing EPA data collection activities to commence during the subsequent six month period. This is a supplementary notice which, under the terms of the Clearance, may also be used to announce EPA data collection activities. These data collection activities will not begin before the end of a 30 day period following the date of this notice. This notification is also required for OMB concurrence under the Federal Reports Act (144 U.S.C 3501 et seq.).

The following list identifies the industrial categories and briefly describes each data collection effort.

##### Dairy Products Processing

Type of Survey: Technical Assessment.  
Majority of surveys will be sent to direct dischargers  
Estimated Number of Plants in Sample: 150  
Approximate Response Burden in Total Manhours Per Plant: 16  
Project Officer: Mark L. Mjones, (202) 426-2554

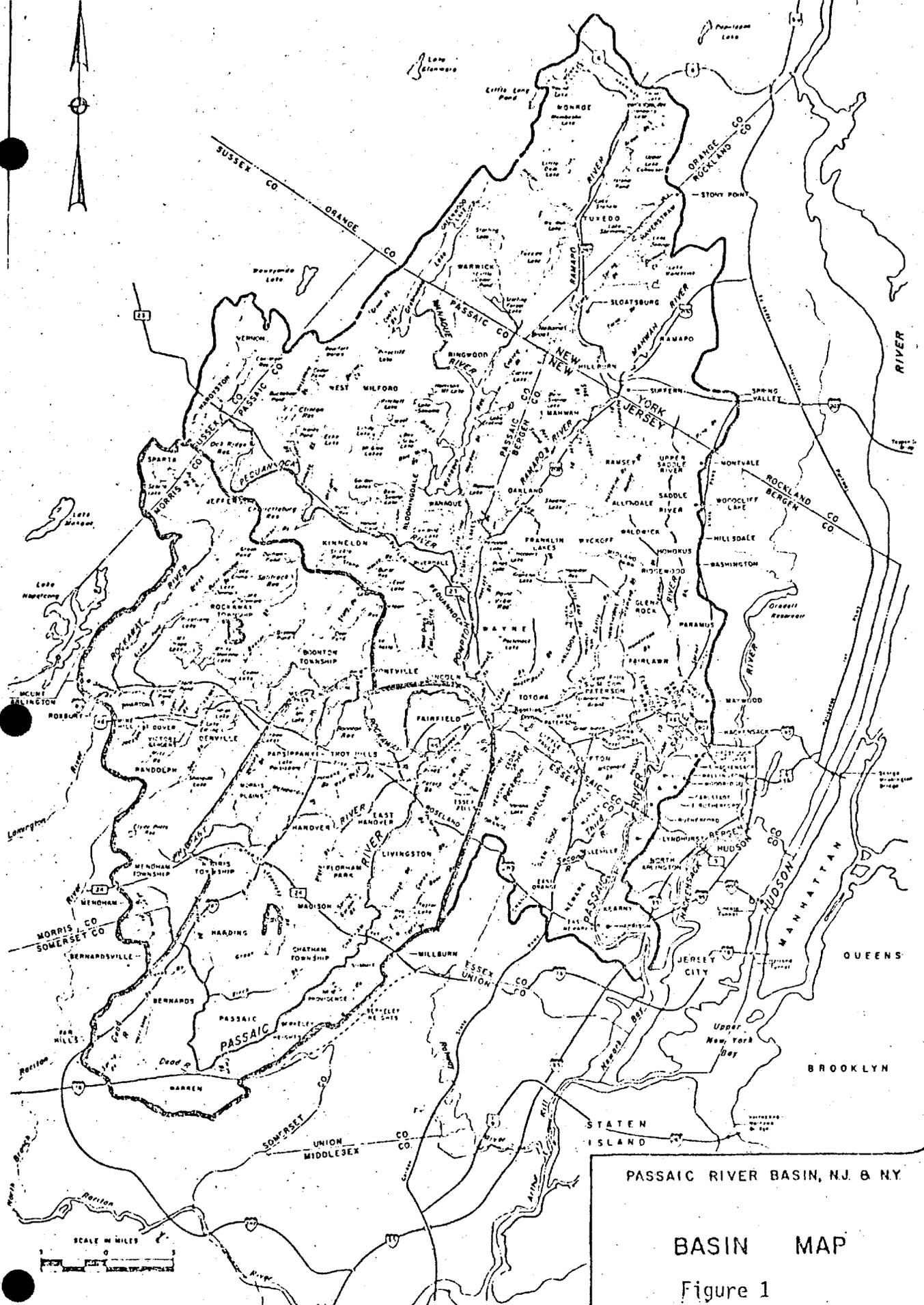
##### Inorganic Chemicals

Type of Survey: Technical Assessment  
Estimated Number of Plants in Sample: 200  
Approximate Response Burden in Total Manhours Per Plant: 10  
Project Officer: Thomas Fielding, (202) 426-4617

##### Steam Electric Plants

Type of Survey: Analytical Self Sampling of Ash Transport Waters  
Estimated Number of Plants in Sample: 30  
Approximate Response Burden in Total Manhours Per Plant: 20  
Project Officer: John Lum, (202) 426-4617

Questions concerning these surveys should be directed to the appropriate Project Officer at the following address:



BURIED VALLEY AQUIFER SYSTEM  
 Area "A" - Aquifer recharge zone  
 Area "B" - Streamflow source zone



# PASSAIC RIVER COALITION

AN URBAN WATERSHED ASSOCIATION

246 MADISONVILLE ROAD, BASKING RIDGE, N. J. 07920 • PHONE (201) 766-7550

FOR IMMEDIATE RELEASE

RE: SOLE SOURCE AQUIFER PETITION

A petition has been submitted to the U. S. Environmental Protection Agency for designation of a Sole Source Aquifer in northeastern New Jersey under Section 1424(e) of the Federal Safe Drinking Water Act of 1974. The aquifer, located in the Central Valley of the Passaic River Watershed (Morris and Essex Counties), consists of Pleistocene buried valley and channel fill deposits of glacial origin, and surrounding shales and sandstones of the Triassic-Jurassic Brunswick Formation. The designation of the aquifer as the sole source of drinking water in the area would insure the review by EPA of all proposed projects receiving Federal financial assistance (such as highways and sewers) that might have an impact on ground water. The petition is aimed at the protection of this vital drinking water source since contamination of the aquifer would pose a threat to public health. The aquifer is the sole source of supply for nearly 587,000 residents of the region. The petition was submitted jointly to EPA by the Passaic River Coalition of Basking Ridge, New Jersey and by the City of East Orange, New Jersey. Up to this time, only Nassau-Suffolk Counties, N. Y., San Antonio, Texas, Spokane, WA and Guam have been designated as "sole source aquifers" by EPA.

For additional information, please contact the Passaic River Coalition, 246 Madisonville Road, Basking Ridge, New Jersey - 07920.

WK:jeh  
2-12-79

# PASSAIC RIVER COALITION

AN URBAN WATERSHED ASSOCIATION

246 MADISONVILLE ROAD, BASKING RIDGE, N. J. 07920 • PHONE (201) 766-7550

PRESS RELEASE

FOR IMMEDIATE RELEASE

FOR FURTHER INFORMATION

CONTACT ROBERT KANE 766-7550

BASKING RIDGE- At a hearing held by the U.S. Environmental Protection Agency recently, the Passaic River Coalition and the City of East Orange continued to urge the Federal Government to provide protection to the Buried Valley Aquifer of the Central Passaic River Basin. This vast aquifer, which is a geological formation underground, stores and yields high quality water to over 587,000 people in an 85 square mile area of northern New Jersey in Morris, Essex, Union and Somerset Counties. Mayor Thomas H. Cooke, Jr., of East Orange, and Ella F. Filippone, executive administrator of the PRC, have been working as chairman and vice-chairman of the Northeast N.J. Wastewater Management Policy Advisory Committee respectively. Through the two-year efforts of the PAC, a recommendation was made that this "vital region" be protected from contamination.

In January, the PRC and East Orange submitted a petition to the U.S. Environmental Protection Agency requesting that the "Buried Valley Aquifer" be designated as a "Sole Source Aquifer" under Section 1424(e) of the Safe Drinking Water Act of 1974. Sole source designation means that over fifty percent of the population in the service area depends on this supply as their only source of drinking water. In the case of the Central Valley of the Passaic River, ninety percent of the population depends on this aquifer. The initial impact of such a designation would mean that any federally funded projects in the area would have to be closely reviewed by the U.S. EPA to determine the environmental impact they would have on the aquifer. While private development would not be effected by the designation, the State of New Jersey has already begun to develop standards for groundwater supplies to be evaluated by the public in the

more

## 2-2-2 Buried Valley Aquifer

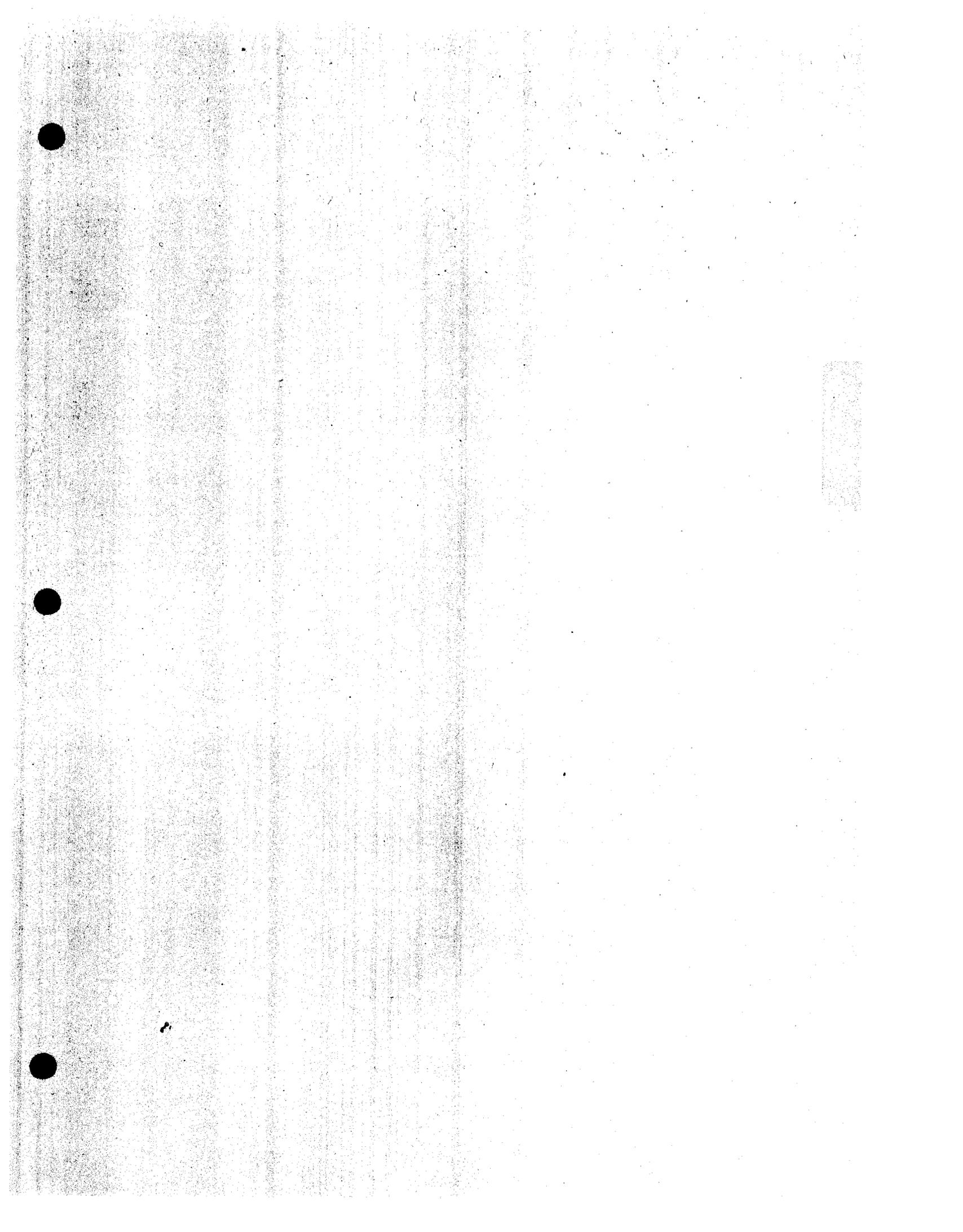
near future.

Since January, the elected officials, municipalities, corporations, and organizations have been sending letters of support to the EPA, including N.J. DEP Commissioner Daniel O'Hern (on behalf of Governor Brendan Byrne).

At the hearing Mr. John Wilford, assistant director of the N.J. Department of Environmental Protection, Division of Water Resources, read a statement saying that the "State of New Jersey strongly supports this petition". In addition, League of Women Voters Natural Chairperson, Cameron Boehme, added the support of the 7,000 members indicating that this valuable supply source must be protected.

PRC director, Ella Filippone, indicated that this is the first major step forward in their long term effort to bring clean water back to the Passaic River Basin. Presently this aquifer water is clean, unpolluted, and only chlorinated because of State law.

The PRC is circulating citizen petitions. Anyone interested in working on protecting this drinking water source should contact the PRC at 246 Madisonville Road, Basking Ridge, N.J. 07920 or call (201) 766-7550.



TAB NO. 11

GRANTEE

(DENVER AND ROCKAWAY VALLEY REGIONAL SEWERAGE AUTHORITY)

COMMUNICATIONS RELATIVE TO

USEPA SPECIAL GRANT CONDITION REGARDING WETLANDS

# TOWNSHIP OF DENVILLE

"Hub of Morris County"

## RECEIVED

OCT 23 1981

LEE T. PURDELL  
ASSOCIATES

DONNA COSTELLO  
Municipal Clerk  
DANIEL CRANE  
Councilor  
BETTY ANN TAYLOR  
Treasurer  
JAMES C. NICHOLS  
ROBERT H. HENNING  
WILLARD H. COOPER  
SAMUEL C. PARKINS

JOHN C. O'KEEFE  
Mayor  
THOMAS I. GRADY  
Administrator

August 12, 1981

Ms. Helen S. Beggan  
Chief, Grants Administration Branch  
26 Federal Plaza  
New York, New York 10278

Re: Grant Agreement EPA # C340 466-02

Dear Ms. Beggan:

I am pleased to enclose on behalf of the Township of Denville, a fully executed original and copy of the Grant Agreement.

As requested in the July 8, 1981 letter from Richard T. Dewling, Part III containing special conditions has been reviewed. It is our understanding that Special Conditions 2a and 2b would prohibit sewer hookups from only those undeveloped or subdividable properties located along the project area as defined by the approved 201 Facilities Plan and as further specifically identified on Table I attached to the June 11, 1981 letter from your agency.

It is our further understanding that if we are unsuccessful in obtaining an approved Step III construction grant we will be relieved from the Special Conditions attached to this Step II grant.

Very truly yours,

TOWNSHIP OF DENVILLE

*John C. O'Keefe*  
John C. O'Keefe, Mayor

Enclosure

cc: Dennis Ducko, Manager  
Grants Administration Unit, NJDEP

PART IIIb. - SPECIAL CONDITIONS (Cont'd)

2. Environmental Conditions

- a. The grantee has submitted to EPA and the New Jersey Department of Environmental Protection an approvable facilities plan amendment including maps that clearly delineate all specific vacant parcels of land within the facilities planning area that are partially or wholly within the 100 year floodplain as defined by the U.S. Department of Housing and Urban Development (HUD), or within wetlands as defined by the U.S. Fish and Wildlife Service. These maps have also shown which parcels had been developed prior to date of issuance of Finding of No Significant Impact/Environmental Assessment (FNSI/EA).
- b. The grantee agrees that for a period of 50 years from the date of the FNSI/EA no sewer hook-up or other connections to the sewage collection system included in the scope of this grant will be allowed or permitted so as to allow the discharge of wastewater from any building, facility or other construction on any parcel of land within any wetlands or within the 100 year floodplain, which land parcel as of the date of the FNSI/EA was undeveloped (i.e., upon which no building, facility or other construction had been erected or placed) unless approved in writing by the Regional Administrator.
- c. This condition is intended to benefit any persons or private organization or governmental entity which may have an interest in the avoidance of any future development in the designated areas. Any such beneficiary (who may otherwise have standing to seek enforcement and the right to begin such action in a court of competent jurisdiction) may seek to enforce compliance with this condition in the courts of the State of New Jersey against the grantees or any non-Federal person, organization, or entity subject to this condition if notice of intent to seek such enforcement is first given to the EPA Regional Administrator, New Jersey Department of Environmental Protection, the Grantee and affected governmental entities and if none of those so noticed initiates corrective action within ninety days of such notice.
- d. Since the facilities plan amendment noted under a. above delineates vacant parcels which will be affected by this special condition, the Grantee will conduct a public hearing within 60 days of the date of this grant. The public hearing must be preceded by a notice of 45 days, during which time the facilities plan amendment will be made available to the public. The public hearing record will remain open for 30 days after the hearing to allow for additional public input.

# Rockaway Valley Regional Sewerage Authority

ORGANIZED 1971

R. D. 1, 99 GREEN BANK ROAD, BOONTON, NEW JERSEY 07005

September 16, 1983

Mayor John Wojaszek  
Township of Rockaway  
65 Mount Hope Road  
Rockaway, NJ 07866

RECEIVED

SEP 1983

TOWNSHIP OF ROCKAWAY  
MAYOR'S OFFICE

Re: Public Hearing on Floodplain/Wetland  
Grant Conditions

Dear Mayor:

The Rockaway Valley Regional Sewerage Authority (RVRSA) will hold a public hearing on October 20, 1983 at 8:00 p.m. at the Dover Town Hall, 37 North Sussex Street, Dover, N.J. The subject of this hearing is the pending grant condition imposed by the Environmental Protection Agency (EPA) which precludes new development in certain "environmentally sensitive areas" (ESA's) from being serviced by the new federally-funded treatment facilities. As a participant in the RVRSA system, certain lots within your municipality may be affected by this grant condition. A complete list of affected lots is attached.

The RVRSA has received EPA grants for the planning, design, and construction of new and expanded wastewater treatment facilities. Construction of a new treatment plant is now underway. EPA has determined, generically, that its issuance of grants for wastewater treatment facilities has, in some cases, encouraged or supported development in ESA's, such as wetlands and floodplains. Since EPA is bound by Executive Orders # 11990 and #11988 to protect these areas, the agency has developed a policy of restricting access to funded sewerage facilities from new development in these ESA's.

As a part of the facility planning process, EPA has required that RVRSA prepare a series of municipal tax maps which illustrate wetland areas larger than 5 acres and floodplains which are not protected by Flood Insurance Program. These maps were prepared for those portions of the planning area which may be served by the funded facility. Denville was not mapped by the RVRSA as this work had been done under a local facility plan. However, affected lots in Denville are expected to come under the grant restriction. Wharton is the only municipality in the service area which is not covered by the Flood Insurance Program, hence it is the only area in which floodplains were mapped.

Copy to  
McKinnis  
McCadden

With the mapping of these ESA's completed, the RVRSA has prepared a list of vacant lots which contain ESA's. We are holding this public hearing on the matter, again as required by EPA grant condition. EPA has requested that the Authority agree to implement this grant restriction for a period of 50 years. According to EPA policies, if a vacant lot is developed, those structures cannot be provided with sewerage service from a funded facility. This is intended to minimize the development and destruction of valuable ESA's. However, EPA provides for a waiver procedure whereby affected lots can be developed under certain conditions. These include:

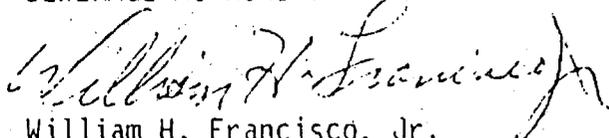
1. Development on lots which can be classified as "infill". These are primarily small lots surrounded by existing development, particularly where public infrastructure is already in place.
2. Development on affected lots, where the development does not disturb the ESA. For example, many affected lots have ESA's on a very small percentage of the lot area. It is feasible, in many cases; to construct a dwelling on that portion of the lot which does not contain an ESA. Similarly, large lots can be subdivided with many of the divided lots not containing ESA's and therefore being developable.
3. In some cases, mapped ESA's may not actually exist or mapping errors may have been made. In these cases, a waiver can be issued.

EPA has developed procedures for obtaining waivers where justified, and is working to implement revised procedures which will further streamline the waiver process. These procedures will be explained at the public hearing. We therefore invite you to attend this public hearing and make any comments (written or oral) which you feel are appropriate. We particularly invite comments on the overall concept embodied in the grant restriction, and the procedures involved in obtaining waivers. The maps and relevant documents will be available for public inspection at the offices of the Authority on or after September 20, 1983.

Should you have any questions concerning this matter, please contact Dennis Suler at (201) 625-1100.

Very truly yours,

ROCKAWAY VALLEY REGIONAL  
SEWERAGE AUTHORITY



William H. Francisco, Jr.  
Executive Director

WHF:lf

# Elson T. Killam Associates, Inc.

125 East Main Street, Donville, New Jersey 07834  
☐ Telephone: (201) 625-1100

Environmental and Hydraulic Engineers



January 31, 1984

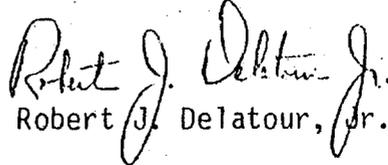
Mr. Thomas McGuire  
Lee T. Purcell Associates  
60 Hamilton Street  
Paterson, New Jersey 07505

Dear Mr. McGuire,

In response to your request of Mr. Dennis Suler of our office, enclosed are copies of the two letters sent to lot owners affected by the "environmentally sensitive areas" grant condition imposed by the U.S. EPA on the Rockaway Valley Regional Sewerage Authority. The first letter, mailed in early September, 1983, describes the grant condition and informs the lot owner of the October 20, 1983 public hearing on the subject. The second letter was mailed in mid-October and provides further information on procedures for submitting waiver requests. Should you have any questions concerning these letter, please feel free to contact Mr. Suler or me at 625-1100.

Very truly yours,

ELSON T. KILLAM ASSOCIATES, INC.

  
Robert J. DeLatour, Jr.

RJD:1f  
enc:

# Rockaway Valley Regional Sewerage Authority

ORGANIZED 1971

R. D. 1, 99 GREEN BANK ROAD, BOONTON, NEW JERSEY 07005

Re: Public Hearing on Floodplain/Wetland  
Grant Conditions

Dear Lot Owner:

The Rockaway Valley Regional Sewerage Authority (RVRSA) will hold a public hearing on Oct. 20, 1983 at 8:00 P.M. at Dover Town Hall, 37 No. Sussex St., Dover, N.J. The subject of this hearing is the pending grant condition imposed by the Environmental Protection Agency (EPA) which precludes new development in certain "environmentally sensitive areas" (ESA's) from being serviced by the new federally-funded treatment facilities.

The RVRSA has received EPA grants for the planning, design, and construction of new and expanded wastewater treatment facilities. Construction of a new treatment plant is now underway. EPA has determined, generically, that its issuance of grants for wastewater treatment facilities has, in some cases, encouraged or supported development in ESA's, such as wetlands and floodplains. Since EPA is bound by Executive Orders # 11990 and #11988 to protect these areas, the agency has developed a policy of restricting access to funded sewerage facilities from new development in these ESA's.

As a part of the facility planning process, EPA has required that RVRSA prepare a series of municipal tax maps which illustrate wetland areas larger than 5 acres and floodplains which are not protected by Flood Insurance Program. These maps were prepared for those portions of the planning area which may be served by the funded facility. Denville was not mapped by the RVRSA as this work had been done under a local facility plan. However, affected lots in Denville are expected to come under the grant restriction. Wharton is the only municipality in the service area which is not covered by the Flood Insurance Program, hence it is the only area in which floodplains were mapped.

With the mapping of these ESA's completed, the RVRSA has prepared a list of vacant lots which contain ESA's. We are holding this public hearing on the matter, again as required by EPA grant condition. EPA has requested that the Authority agree to implement this grant restriction for a period of 50 years. According to EPA policies, if a vacant lot is developed, those structures cannot be provided with sewerage service from a funded facility. This is intended to minimize the development and destruction of valuable ESA's. However, EPA provides for a waiver procedure whereby affected lots can be developed under certain conditions. These include:

1. Development on lots which can be classified as "infill". These are primarily small lots surrounded by existing development, particularly where public infrastructure is already in place.
2. Development on affected lots, where the development does not disturb the ESA. For example, many affected lots have ESA's on a very small percentage of the lot area. It is feasible, in many cases, to construct a dwelling on that portion of the lot which does not contain an ESA. Similarly, large lots can be subdivided with many of the divided lots not containing ESA's and therefore being developable.
3. In some cases, mapped ESA's may not actually exist or mapping errors may have been made. In these cases, a waiver can be issued.

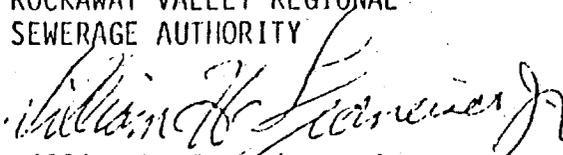
EPA has developed procedures for obtaining waivers where justified, and is working to implement revised procedures which will further streamline the waiver process. These procedures will be explained at the public hearing.

In any event, the research and mapping work completed by the Authority to date indicates that you are the owner of a lot or lots (indicated above) which will be affected by this grant condition should it be implemented by RVRSA. We therefore invite you to attend this public hearing and make any comments (written or oral) which you feel are appropriate. We particularly invite comments on the overall concept embodied in the grant restriction, and the procedures involved in obtaining waivers. The maps and relevant documents will be available for public inspection at the offices of the Authority on or after September 20, 1983.

Should you have any questions concerning this matter, please contact Dennis Suler at (201) 625-1100.

Very truly yours,

ROCKAWAY VALLEY REGIONAL  
SEWERAGE AUTHORITY

  
William H. Francisco, Jr.  
Executive Director

# Rockaway Valley Regional Sewerage Authority

ORGANIZED 1971

R. D. 1, 99 GREEN BANK ROAD, BOONTON, NEW JERSEY 07005

Dear Lot Owner:

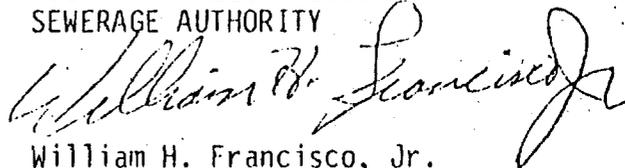
To supplement the previous letter which was submitted to you concerning the restriction of sewer service on vacant parcels containing floodplains or wetlands, we are forwarding a copy of our procedure for processing requests for a waiver of this policy. These may be submitted to the Authority at any time and will be considered on a case-by-case basis in accordance with the procedures and criteria outlined in the attachment.

Following the public hearing on October 20, the Authority will hold the public record open for additional written comments until November 20, 1983. Subsequent to that date, we will forward to EPA a final list of affected lots, a copy of the public hearing transcript, any additional responses received during the public comment period, and an initial series of waiver requests. If you wish to immediately request a waiver of this restriction for your lot, please review the attachment and submit your request by November 20, 1983.

If you have any questions concerning this matter, please call Dennis Suler at 625-1100.

Very truly yours,

ROCKAWAY VALLEY REGIONAL  
SEWERAGE AUTHORITY



William H. Francisco, Jr.  
Executive Director

## PROCEDURE FOR PROCESSING WAIVER REQUESTS

### Introduction

The Rockaway Valley Regional Sewerage Authority (RVRSA) is required, by Federal regulation, to implement a policy which prohibits the connection of structures which are built on vacant lots containing "environmentally sensitive" areas (ESA's). These include floodplains and wetlands and are delineated on a set of municipal tax maps available for inspection at the offices of the Authority. This restriction affects only those lots which contain ESA's and which were vacant on July 5, 1983. Vacancy is determined by the local tax status of a parcel on this date. That is, if a lot was classified and assessed as a developed lot on July 5, 1983, it will be exempt from this restriction. All lots containing ESA's and listed as undeveloped on this date must obtain a waiver before the Authority can accept a sewer connection for structures constructed on that lot.

### Technical Grounds for Obtaining Waivers

The primary intent of this EPA policy is to prevent the large-scale loss and development of valuable ESA's. Requests for a waiver of this restriction will be considered on the following grounds:

1. The amount of public investment in infrastructure (roads, water mains, gas mains, electrical service, sewers) already in place which is intended to serve undeveloped lots.
2. The area of a given vacant parcel.
3. Whether or not vacant parcels are totally surrounded by existing development.
4. Status of development commitments (i.e. subdivision approvals, building permits).
5. Location within the floodplain (i.e. areas at lower elevations are more susceptible to flood losses).
6. The quality and area of wetlands contained on the lot.
7. Economic hardship to the local municipality which would result if sewer service is denied.
8. The ability and willingness of a lot owner to develop only those portions of the lot which do not contain ESA's.

Of course, if a lot owner believes that no ESA's are present on his/her lot in spite of presence indicated by mapping, a waiver can be requested.

## Contents of a Waiver Request

Waiver requests should be submitted, in four copies, to the RVRSA at the following address:

Rockaway Valley Regional Sewerage Authority  
99 Green Bank Road, RD #1  
Boonton, New Jersey 07045  
Attn: Mr. William H. Francisco, Executive Director

The waiver request should fully explore and document applicable reasons which would justify a waiver (valid technical bases for a waiver are outlined above). The following may be submitted in support of the request as appropriate: block and lot number, copies of building permits, other local approvals, tax records, plot plans (showing the location of proposed structures within the lot), and any other relevant technical data.

## Procedure for Processing Waiver Requests

The RVRSA will forward waiver requests to the New Jersey Department of Environmental Protection (DEP) and to the U.S. Environmental Protection Agency for review. The Authority may elect to review and comment on the waiver request based on reasonableness and consistency with the stated technical criteria. The lot will be inspected, as necessary, by representatives of the DEP and/or U.S. Fish and Wildlife Service. Additional information may be requested from an applicant if such information is necessary to properly evaluate the request. Where requests are accompanied complete documentation, it is estimated that approximately two to three months will be required to arrive at a waiver determination.



TAB NO. 12

ROCKAWAY TOWNSHIP'S SERVICE CONTRACT

WITH

THE ROCKAWAY VALLEY REGIONAL SEWERAGE AUTHORITY

Dated July 1, 1976

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SERVICE CONTRACT

between

THE ROCKAWAY VALLEY REGIONAL SEWERAGE AUTHORITY

and

THE MAYOR AND COMMON COUNCIL OF THE TOWN OF BOONTON  
THE TOWNSHIP OF BOONTON, IN THE COUNTY OF MORRIS  
THE TOWNSHIP OF DENVILLE, IN THE COUNTY OF MORRIS  
TOWN OF DOVER  
BOROUGH OF ROCKAWAY  
THE TOWNSHIP OF ROCKAWAY, IN THE COUNTY OF MORRIS  
THE RANDOLPH TOWNSHIP MUNICIPAL UTILITIES AUTHORITY  
THE WHARTON SEWERAGE AUTHORITY  
THE TOWNSHIP OF RANDOLPH, IN THE COUNTY OF MORRIS  
BOROUGH OF WHARTON

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Dated July 1, 1976

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SERVICE CONTRACT

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THIS AGREEMENT

made and dated as of the first day of July, 1976

BETWEEN

THE ROCKAWAY VALLEY REGIONAL SEWERAGE AUTHORITY (the "Authority"),  
a public body corporate and politic of the State of New Jersey,

AND

THE MAYOR AND COMMON COUNCIL OF THE TOWN OF BOONTON, THE TOWNSHIP  
OF BOONTON, IN THE COUNTY OF MORRIS, THE TOWNSHIP OF DENVILLE, IN  
THE COUNTY OF MORRIS, TOWN OF DOVER, BOROUGH OF ROCKAWAY, AND THE  
TOWNSHIP OF ROCKAWAY, IN THE COUNTY OF MORRIS, each being a muni-  
cipal corporate of the State of New Jersey, situate in the County  
of Morris and hereinafter referred to as "Municipality",

AND

THE RANDOLPH TOWNSHIP MUNICIPAL UTILITIES AUTHORITY (the "Randolph  
Authority") AND THE WHARTON SEWERAGE AUTHORITY (the "Wharton Author-  
ity"), each a public body politic and corporate of the State of New  
Jersey,

AND

THE TOWNSHIP OF RANDOLPH, IN THE COUNTY OF MORRIS ("Randolph Town-  
ship") AND BOROUGH OF WHARTON ("Wharton Borough"), each being a mun-  
icipal corporation of the State of New Jersey, situate in the County  
of Morris

W I T N E S S E T H

WHEREAS, the areas of the Participants (hereinafter defined)  
together comprise an integral body of territory and pursuant to the

Sewerage Authorities Law (N.J.S.A. §§40:14A-1 et seq.), constituting Chapter 138 of the Pamphlet Laws of 1946 approved April 23, 1946, of the State of New Jersey and the acts amendatory thereof or supplemental thereto (herein sometimes called the "Act") the Authority was created by their several ordinances duly adopted in the single calendar year 1971 by the respective governing bodies of the several Participants; and

WHEREAS, the Authority is a public body corporate and political of the State of New Jersey organized and existing under said Act constituting a political subdivision of the State established as an instrumentality exercising public and essential governmental functions to provide for the public health and welfare, with all necessary or proper powers to acquire, construct, maintain, operate and use works for the relief of the Rockaway River and other waters in, bordering or entering the District (hereinafter defined) from pollution or threatened pollution and for improvement of conditions affecting the public health; and

WHEREAS, there are in and about the territory of each of the Participants waters which are polluted and subject to pollution by sewage and industrial and other wastes arising from causes within such territory; and

WHEREAS, in order to reduce or eliminate such pollution or threatened pollution the Authority is ready to design, acquire, construct and put in operation certain necessary and required improvements, alterations and extensions to its existing sewage disposal system (the Project hereinafter defined), and can most economically do so if the Participants become legally bound to accept and pay for

sewage and waste treatment service through such improved and extended facilities; and

WHEREAS, each Participant has determined that it will be advantageous to it and to its residents with state and federal financial assistance, and it has been requested and is willing, to have sewage and other wastes originating from it or within its territory treated and disposed of by the Authority pursuant to the terms of this agreement and to be obligated to make payments for or with respect to any or all such service made or to be made available to them hereunder on the terms, in the amounts, and at the times herein provided for, and such Participant has duly authorized its proper officials to enter into and execute for it this agreement;

NOW THEREFORE, in consideration of these premises, of the mutual covenants and agreements herein set forth, and of the undertakings of each party to the others, the Authority and the Participants, each binding itself, its successors and assigns, do mutually covenant, promise and agree as follows:

## ARTICLE I.

## Definitions

Section 101. Defined Terms. As used or referred to in this agreement, unless a different meaning clearly appears from the context:

(1) "Accountant's Certificate" means an opinion signed by or on behalf of a registered municipal accountant or a certified public accountant of the State of New Jersey, employed by the Authority;

(2) The term "Act" shall have the meaning given or ascribed to such term in the foregoing introduction and recitals to this agreement;

(3) The term "Annual Charge" shall have the meaning given or ascribed to such term in Article IV of this agreement;

(4) Articles and Sections mentioned by number only are the respective Articles and Sections of the Service Contract so numbered;

(5) "Authority Officer" means the Chairman, any Vice-Chairman, the Secretary or the Treasurer of the Authority;

(6) "Bond" means any bond, note or other evidence of indebtedness heretofore or hereafter issued by the Authority;

(7) "Consulting Engineer" means the engineering firm of Elson T. Killam Associates, Inc. of Millburn,

New Jersey, or any other or different independent engineer or firm of engineers (who may be an engineer or firm of engineers retained by the Authority for other purposes) selected by the Authority and of recognized standing for skill and experience with respect to design and operation of sewerage systems or facilities;

(8) The term "county" shall have the meaning given or ascribed to such term in the Act;

(9) "District" means the area within the territorial boundaries of the Participants;

(10) "Federal Act" means the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), as amended by the Federal Water Pollution Control Act Amendments of 1972 (Pub. L. 92-500 and Pub. L. 93-243), as the same may be further amended and supplemented;

(11) "Fiscal Year" means the period of twelve calendar months beginning with January 1 of any year and ending with December 31 of such year;

(12) The term "governing body" shall have the meaning given or ascribed to such term in the Act;

(13) The term "industrial wastes" shall have the meaning given or ascribed to such term in the Act;

(14) "Local Sewerage System" means all sewer systems of a Participant which are or may be connected, or are or may be required under the terms of Article III to be connected, with the System, including all outfalls of such systems and any

extensions or enlargements of such systems;

(15) "Participant" means a Municipality or the Randolph Authority or the Wharton Authority;

(16) "Person" means any person, association or corporation, or any nation or state or any agency or subdivision thereof including any county, municipality or sewerage or other authority, other than a Participant;

(17) The term "pollution" shall have the meaning given or ascribed to such term in the Act;

(18) "Project" means such sewerage facilities as are necessary to provide for the collection, treatment and disposal of sewage within the District by the Authority and shall include an advanced wastewater treatment facility, an interceptor sewer generally paralleling the Rockaway River, with necessary branch trunk sewers, together with all connections, manholes, valves, metering chambers or stations, equipment, apparatus, structures and appurtenances and all other real or tangible personal property necessary or desirable for the efficient operation of such facilities, all as more particularly described and referred to in Preliminary Design Report Upon the Proposed Rockaway Valley Regional Total Water Management Plan, and the Rockaway River Regional Interceptor Sewer

dated September, 1973, as amended and supplemented, on file in the office of the Authority;

(19) "Rockaway Valley Drainage Basin" means that area of the District delineated on the map attached hereto marked "Schedule C" and by this reference made a part hereof;

(20) "Service Contract" means this agreement;

(21) "Service Charges" means rents, rates, fees or other charges for direct or indirect connection with, or the use or services of, the System which the Authority, under the provisions of Section 8 of the Act, is or may be authorized to charge and collect with regard to persons or real property;

(22) "Sewage" means waterborne animal or other wastes (except industrial wastes) from water closets, buildings, residences, industrial establishments or other places, together with such ground water infiltration, surface water, admixtures or other wastes as may be present;

(23) "System" means the Project and all other sewers, conduits, pipelines, mains, pumping and ventilating stations, sewage treatment and disposal systems, plants and works, connections and

outfalls, and all other plants, structures, equipment, boats, conveyances and other real and tangible personal property, and all renewals or replacements of any of the foregoing, acquired, constructed or operated or to be acquired, constructed or operated by the Authority for the purposes of the Authority under the Act, but does not include any public sewage collection system or facilities of any Participant;

(24) Words importing the singular number include the plural number and vice versa, words importing individual persons include firms, associations and corporations, and words importing the masculine gender include every other gender.

## ARTICLE II

## Construction and Operation of System

Section 201. Construction of Project. The Authority will with all practicable speed prepare and complete plans for the financing, construction and acquisition of the Project and, upon completion of such financing or the making of arrangements therefor satisfactory to the Authority, will with all practicable speed construct, acquire and complete the Project.

Section 202. Operation and Maintenance of System. The Authority at any time may place the Project or any part thereof in operation and, upon completion of the Project as mentioned in Section 201, will place the same in operation. After placing the Project in operation, the Authority will maintain and operate the System and, whenever necessary, will alter, improve, enlarge and extend the System so as to treat and dispose of all sewage, without limitation as to volume, which may be delivered into the System by any Participant in accordance with Article III. The Authority may at any time and at its discretion alter, improve, enlarge and extend the System in any respect or renew or replace any part thereof and issue Bonds to finance any such work; provided, however, that on or before the fifth anniversary of the date on which the System or any part thereof shall be placed in operation, and on or before the expiration of each five-year period thereafter, the Consulting Engineer shall prepare and submit to the Authority a report concerning the necessity for enlargement or extension of the

System within the next succeeding five-year period. The Authority will cause a copy of each such report, together with a notice stating the time, date and place of the meeting of the Authority at which a public hearing with respect to such report shall be held, to be mailed to each Participant at its usual place of business.

Section 203. Approval of Plans. Before undertaking physical construction of the Project or of any substantial part of the System, the Authority will submit the plans and specifications for such construction to the State Department of Environmental Protection of New Jersey (or a successor thereof) for approval as to sufficiency of design and compliance with standards for sewage treatment plants and sewers as then promulgated by said Department, and the Authority will obtain all necessary permits from said Department to proceed with such construction and all necessary approvals from every other agency of the State of New Jersey or of which the State shall constitute a member, which has jurisdiction or authority as to type or degree of treatment or sewage.

Section 204. Location of System and Use of Public Property. The Authority shall have the right to construct, acquire, maintain, operate and use such trunk, intercepting and outlet sewers, conduits, pipelines, mains, pumping and ventilating stations, sewage treatment and disposal systems, plants and works at such places within or without the District and such other plants, structures, boats and conveyances as in the judgment of the Authority are necessary to treat and dispose of

sewage or other wastes delivered or to be delivered into the System. To that end, the Authority, within the territory of each Participant but doing no unnecessary damage to public property and restoring all street paving and subject to the municipal street-opening regulations, may construct, maintain and operate the System, free of charge by such Participant, along, over, under and in any streets, alleys, highways and other public places of such Participant.

Section 205. Insurance. The Authority will at all times maintain with responsible insurers all such insurance as is customarily maintained with respect to sewerage systems of like character against loss or damage to the System and against public or other liability to the extent not less than that reasonably necessary to protect the interests of the Authority and the Participants and will at all times maintain with responsible insurers all insurance reasonably required and obtainable within limits and at costs deemed reasonable by the Authority to indemnify and save harmless the Participants against all liabilities, judgments, costs, damages, expenses and attorney's fees for loss, damage or injury to persons or property resulting directly or indirectly from the operation or a failure of operation of the System caused by the negligence or wilful act of the Authority, its employees or agents.

Section 206. Accounts. The Authority will keep proper books of record and account in which complete and correct

entries shall be made of its transactions relating to the System or any part thereof, and which, together with all other books and papers of the Authority, shall at all reasonable times be subject to public inspection. The Authority will cause its books and accounts to be audited annually, and annually within one hundred days after the close of each Fiscal Year, copies of the reports of such audits so made shall be furnished to the Authority and to each Participant, including statements in reasonable detail, accompanied by an Accountant's Certificate with respect thereto, of financial condition, of revenues and operating expenses, and of all funds held by or for the Authority.

## ARTICLE III

## Connections to the System

Section 301. Required Connections for Participants. Upon notice from the Authority, each Participant will permit its sewer systems or the outfalls therefrom to be connected with the System at each point and at the elevation designated therefor in the List of Connection Points attached hereto marked "Schedule A" and by this reference made a part hereof, or at such other location for said point and at such elevation as may be requested by such Participant and accepted and agreed to by the Authority and be substituted in lieu of such point. Every such connection at such a point or substituted location shall be made by the Authority at its own cost and expense.

Section 302. Additional Connections. Upon request by a Participant for any connection of its sewer systems to the System in addition to those mentioned in Section 301, the Authority may at its discretion, but shall not be required to, make such additional connection or consent to the making thereof. All costs and expenses of installing any such additional connection including any metering stations or other facilities appurtenant thereto shall be paid by the Participant requesting the same.

Section 303. Installation, Completion and Operation of Connections. Every connection between the System and the sewer systems of a Participant as referred to above in this Article shall be designed and constructed, and shall constitute and be operated, by the

Authority as part of the System and shall include all such pumping and other facilities as may be necessary to cause all sewage delivered at the point of such connection to be discharged into the System and be so made and constructed as to discharge into the System all sewage collected in the Local Sewerage System of the Participant and delivered at the point of such connection. Such Participant at its own cost and expense will construct, install and operate any and all extensions of its Local Sewerage System, or the outfalls therefrom, necessary to cause the same to reach to and deliver sewage at the said point or points of connection of its sewer or drainage systems and, after the making of such connection or connections, will keep its Local Sewerage System connected with the System and will deliver and discharge into the System all sewage originating in and collected by the Participant or collected in such Local Sewerage System.

Section 304. Sewage Not Required to be Discharged into System.

Notwithstanding the foregoing provisions of this Article or any other provisions of the Service Contract, no Participant shall be obligated hereunder to deliver and discharge into the System (1) sewage which the Authority may by its written consent exempt from delivery and discharge into the System or (2) sewage which, with the written consent of the Authority, it discharges into the Local Sewerage System of another Participant.

Section 305. Sewage Not Required to be Accepted into System.

Notwithstanding the foregoing provisions of this Article or any other provisions of the Service Contract, no Participant shall have the right

hereunder to deliver and discharge into the System any sewage or other wastes except (1) sewage originating in that part of the area of the Participant lying within the Rockaway Valley Drainage Basin, or (2) sewage discharged, with the written consent of the Authority, into its Local Sewerage System by any other Participant, or (3) any other sewage delivered and discharged into the System by said Participant with the written consent of the Authority.

Section 306. Meters and Measurements of Sewage and Records Thereof. (A) The Authority will provide, install and use as part of the System meters or other devices, methods or procedures for determining the volume directly or by differentials or otherwise, and from time to time as necessary make tests and use other means for determining the quality and other characteristics, of all sewage which shall be delivered and discharged into the System (a) by or for the account of each of the Participants and (b) from all other sources, and, in accordance with sound engineering practice, will determine such volume and, when necessary, such quality and characteristics. A copy of every such determination made by the Authority as to the Participants with respect to any Fiscal Year shall be mailed to each Participant at its usual place of business and, for all purposes of the Service Contract, shall be conclusively deemed to have been made in accordance with the Service Contract and to be correct at the expiration of the period of ninety days after such mailing except as may be provided by the final judgment of a court of competent jurisdiction in any action or proceeding begun by a Participant

within such period;

(B) The Authority will make and keep permanent records of the volume and, when ascertained, the quality and other characteristics of sewage delivered and discharged into the System (a) by or for the account of each of the Participants and (b) from all other sources. For the purpose of determining the volume, quality and other characteristics of any sewage which shall or may be delivered and discharged into the System by any Participant the Authority shall have the right at all reasonable times to enter upon and inspect the sewer, sanitation or drainage systems of such Participant and to take normal samples under ordinary operating conditions and make tests, measurements and analyses of sewage or other wastes in, entering or to be discharged into such sewer, sanitation or drainage systems. The Authority will make and keep a record of tests, measurements and analyses of such sewage or other wastes entering such sewer, sanitation or drainage systems, and upon the written request of any Participant will make available to such Participant the results of such tests, measurements or analyses.

## ARTICLE IV

## Authority Charges and Payment Thereof.

Section 401. Obligation of Participants. The Participants will make payments (herein sometimes called "Annual Charges") annually to the Authority for or with respect to the facilities and services made or to be made available to them hereunder by the Authority regarding the treatment and disposal of sewage and other wastes originating within their territory.

Section 402. Annual Charge. The Annual Charge for each Fiscal Year payable hereunder by a Participant shall be the sum of money obtained by multiplying the rate per gallon of wastewater determined as provided in "Schedule B" attached hereto and by this reference made a part hereof, by the number of gallons of wastewater received in the System during said Fiscal Year from the Local Sewerage System of said Participant; plus the amount of the surcharge to said Participant determined in accordance with said Schedule B; less the amount (if any) credited to such Participant pursuant to Section 404.

Section 403. Payment of Annual Charges by Participants. (A) On or before December 15 of the year which the Authority may estimate as the year preceding the Fiscal Year in which the System or any part thereof will be placed in operation and on or before December 15 in each Fiscal Year thereafter, the Authority will make an estimate of the amount of the Annual Charge which will become payable by

each Participant for the next ensuing Fiscal Year, and make and deliver to such Participant its certificate signed by an Authority Officer stating such estimated amount of such Annual Charge for such Fiscal Year.

(B) Each Participant will pay to the Authority the estimated amount of the Annual Charge stated in the certificate delivered to it in each Fiscal Year by the Authority as aforesaid in equal monthly installments beginning on or before February 15 and thereafter on or before the 15th of each month in such Fiscal Year.

(C) On or before December 31 of the Fiscal Year which the Authority may estimate as the year in which the System or any part thereof may be placed in operation and on or before December 31 of each Fiscal Year thereafter, the Authority will make and deliver to each Participant its certificate signed by an Authority Officer stating (1) the amount of the Annual Charge with respect to such Participant for said Fiscal Year computed in accordance with the Service Contract and (2) the part (if any) of such Annual Charge not previously paid to the Authority by such Participant pursuant to and in accordance with Paragraph (B) of this Section, accompanied by an Accountant's Certificate approving the statements in such certificate, and on or before April 1 next ensuing, such Participant will pay to the Authority the unpaid part of any Annual Charge so stated in such certificate. The Annual Charge payable by each Participant for each Fiscal Year shall at all events be due and payable not later than February 1 next following the close of such Fiscal Year, but current provision for and payment

of all such Annual Charges on an estimated basis shall be made by each Participant in accordance with the foregoing Paragraphs of this Section. In the event that the amount of the Annual Charge made and charged by the Authority to and payable by such Participant for any Fiscal Year computed as provided in this Article shall be less than the estimated amount of such Annual Charge stated in the certificate delivered in such Fiscal Year to it by the Authority and paid by it to the Authority, the Authority will return the amount of the difference between said amounts of Annual Charge to the Participant on or before February 15 of the next succeeding Fiscal Year by credit against payments due to the Authority under the provisions of Paragraphs (B) or (C) of this Section.

(D) Each Participant will in each year make all budgetary, emergency and other provisions or appropriations necessary to provide for and authorize the prompt payment by the Participant to the Authority during each Fiscal Year of the estimated amount of the Annual Charge for said Fiscal Year and, by February 1 next ensuing, of the amount of the actual Annual Charge (if any) for said Fiscal Year, all as stated in the certificates delivered in or with respect to such Fiscal Year to it by the Authority as aforesaid.

Section 404. Proportionate Share. In each Fiscal Year there shall be credited to and deducted from the Annual Charge of each Participant the share of any payment received by the Au-

thority from the City of Jersey City set forth in paragraph 6(a) and (b) of the Stipulation of Settlement entered in the Superior Court of New Jersey, Chancery Division: Hudson County, Docket No. C-658-68 and as allocated among the Participants as set forth on Schedule C thereof.

Section 405. Limitation on Service Charges. The sums payable by a Participant to the Authority under the provisions of this Article are and shall be in lieu of Service Charges with regard to real property in such Participant directly or indirectly connected with the System and real property connected to the Local Sewerage System of such Participant connected with the System in accordance with Article III. So long as such Participant shall not be in default in the making of any payments becoming due from it under the provisions of this Article, the Authority will suspend Service Charges with regard to such real property. For the purposes of this Section, a Participant shall be deemed to be in default if such Participant, for a period of thirty days after its due date, shall fail to make in full to the Authority any payment required to be made by it under the provisions of this Article.

## ARTICLE V

## Payments by Randolph Township and Wharton Borough

Section 501. Payments by Randolph Township. In the event that Randolph Authority shall fail to make any payment or perform any other obligation to the Authority required pursuant to the terms of this Agreement within the time provided for any such payment or performance, and written notice of such nonpayment or nonperformance is given by the Authority to Randolph Township, then Randolph Township shall pay to the Authority the amount stated in such notice to be due from Randolph Authority, or undertake the performance of such other obligation to the extent permitted by law, within 30 days after receipt of said notice. Nothing in this section shall be deemed to relieve Randolph Authority of any obligation under this contract and Randolph Authority and Randolph Township shall be jointly and severally liable to the Authority for the payment to the Authority of any sums as to which notice, as hereinabove provided, is given to Randolph Township. Randolph Township shall make all budgetary, emergency and other provisions or appropriations necessary to provide for and authorize the prompt payment by it to the Authority of all amounts due pursuant to this section. Nothing herein contained shall preclude Randolph Township from effectuating dissolution of Randolph Authority as provided by law; provided, however, that Randolph Township shall thereupon assume all the obligations of this Agreement.

Section 502. Payments by Wharton Borough. In the event

that Wharton Authority shall fail to make any payment or perform any other obligation to the Authority required pursuant to the terms of this Agreement within the time provided for any such payment or performance, and written notice of such nonpayment or nonperformance is given by the Authority to Wharton Borough, then Wharton Borough shall pay to the Authority the amount stated in such notice to be due from Wharton Authority, or undertake the performance of such other obligation to the extent permitted by law, within 30 days after receipt of said notice. Nothing in this section shall be deemed to relieve Wharton Authority of any obligation under this contract and Wharton Authority and Wharton Borough shall be jointly and severally liable to the Authority for the payment to the Authority of any sums as to which notice, as hereinabove provided, is given to Wharton Borough. Wharton Borough shall make all budgetary, emergency and other provisions or appropriations necessary to provide for and authorize the prompt payment by it to the Authority of all amounts due pursuant to this section. Nothing herein contained shall preclude Wharton Borough from effectuating dissolution of Wharton Authority as provided by law; provided, however, that Wharton Borough shall thereupon assume all the obligations of this Agreement.

## ARTICLE VI

## Local Operations

Section 601. Limitation on Special Wastes. (A) The Authority may at any time make, promulgate, issue, publish and from time to time amend, and enforce, all such reasonable rules and regulations concerning the System or the business and affairs of the Authority as it may deem necessary or desirable, including but not limited to rules and regulations (herein sometimes called "Service Rules") regulating the making of connections, direct or indirect, to the System or the use or services of the System or prohibiting, limiting or regulating the discharge into the System or any sewer, sanitation or drainage systems connected therewith of (a) storm water drainage from ground surface, roof leaders, sump pumps, catch basins or from any other source, (b) industrial wastes, or (c) oils, acids, garbage, metallic salts, radioactive, toxic or explosive materials or any other substances which alone or in combination with other substances discharged or existing in the System are or may reasonably be expected to be substantially injurious or deleterious to the System or to its efficient operation or economical maintenance, or dangerous to the public health or safety. Such of said Service Rules as the Authority may designate shall apply to operation of the Local Sewerage System of each Participant as well as the System, and such Participant will fully conform with such applicable Service Rules and will cause the same to be fully observed and conformed with throughout its ter-

ory. Said Service Rules may include lists of harmful wastes discharge of which into the System or any sewer, sanitation or drainage systems connected therewith shall be prohibited. In the enforcement of said Service Rules, the Authority may refuse to permit or continue the connection to the System of properties in a Participant, and such refusal shall not be deemed to result in any violation by the Authority of the provisions of the Service Contract as to construction or operation of the System or the charging or collection of Annual Charges, Service Charges or any other matter. All such Service Rules and any amendments thereof shall be prescribed by resolution of the Authority adopted only after public hearing thereon held by the Authority at least seven days after notice of the time and place of such hearing shall have been mailed to each Participant at its usual place of business, shall take effect ten days after a copy thereof (as adopted) shall have been mailed to each Participant, and, for all purposes of the Service Contract, shall be conclusively deemed to have been prescribed, adopted and made in accordance with this Article and to be fully authorized thereby at the expiration of said period of thirty days except as may be provided by the final judgment of a court of competent jurisdiction in an action begun by a Participant within such period.

(B) Each Participant will cause all sewage at any time discharged into the System by it or on its behalf to comply with the rules and regulations above referred to in this Section then in ef-

fect. Each Participant will permit no new connections and will discontinue existing public connections and will require the discontinuance of existing private connections to its Local Sewerage System, which allow entrance therein of such sewage as will cause the discharge at any time into the System from such Local Sewerage System of sewage which does not comply with said rules and regulations. The Authority may from time to time make determination of the respects in which sewage discharged into the System by or on behalf of any Participant is not in compliance with said rules and regulations. A copy of such determination shall be mailed to such Participant at its usual place of business and, for all purposes of the Service Contract, shall be conclusively deemed to have been made in accordance with this Article and to be correct at the expiration of the period of twenty days after such mailing except as may be provided by the final judgment of a court of competent jurisdiction in an action begun by said Participant within such period.

Section 602. Competitive Facilities. No Participant shall, after the completion of the Project, construct, enlarge or operate a plant for the treatment and disposal of sewage required by the provisions of the Service Contract to be delivered and discharged by the Participant into the System unless (1) it is necessary to do so in order for the Participant to comply with the terms of Section 601, or (2) the Authority shall have given its written consent thereto.

Section 603. Construction and Operation of Local Sewerage System. (A) Each Participant shall proceed to construct as part of its Local Sewerage System all such sanitary sewage collection facilities as it deems necessary, together with the System of the Authority, for the relief of waters within or bordering the territorial boundaries of such Participant from pollution or threatened pollution by sewage and industrial and other wastes arising from sources within said boundaries. Each Participant will at all times operate its Local Sewerage System in such a manner so that the Participant will at all times be in compliance with the provisions of the Federal Act and any rules and regulations promulgated pursuant hereto and any laws of the State of New Jersey with respect to the collection, treatment and disposal of sewage, including any rules and regulations of the State Department of Environmental Protection (or any successor thereof). The Local Sewerage System of each Participant shall be operated and maintained in such a manner as to exclude any excessive infiltration or storm water inflow therefrom, and in the event such excessive infiltration or inflow as defined in Section 35.905-5 of Grants for Construction of Treatment Works of the Federal Register, Volume 39, Number 29, and dated February 11, 1974 (as the same may be amended or supplemented) shall exist or occur the Participant shall make all repairs and take all other measures required to reduce the amount or volume thereof to normally allowable levels which are acceptable to said Department of Environmental Protection or the United States Environmental Protection Agency (or any successor thereof). In con-

nection with any such excessive infiltration or inflow condition, the Authority shall undertake with all practicable speed any required sewer system evaluation survey, as defined in Section 35.927-2 of Grants for Construction of Treatment Works of the Federal Register, Volume 39, Number 29, and dated February 11, 1974 (as the same may be amended or supplemented). Each Participant shall cooperate with the Authority to the maximum extent possible in connection with the preparation of such survey.

(B) Each Participant agrees to take all available administrative steps, and pursue any and all remedies provided by law, to enforce compliance, in the operation of its Local Sewerage System, with all rules and regulations promulgated by the Authority, and to adopt and maintain in full force and effect a mandatory connection or sewer use ordinance in compliance with the rules and regulations of said Environmental Protection Agency, as promulgated in the Federal Register, Volume 39, Number 29, and dated February 11, 1974 (as the same may be amended or supplemented). Each Participant further agrees to comply with the provisions relating to user charges and industrial cost recovery as promulgated in said Federal Register, Volume 38, Number 161, and dated August 21, 1973 (as the same may be amended or supplemented).

## ARTICLE VII

## Miscellaneous

Section 701. Contracts with or Service to Others. (A)

The Authority will not hereafter enter into any other agreement providing for or relating to the treatment and disposal by it of sewage originating in any Participant or sewage originating outside such Participant collected in sewers which at the date of the Service Contract are connected with the Local Sewerage System of such Participant, unless (1) the other contracting party be such Participant or (2) such Participant shall have given its written consent thereto.

(B) Except as otherwise provided in Paragraph (A) of this Section, nothing in this Service Contract contained shall restrict in any way the right and power of the Authority, in its discretion, at any time and from time to time to accept delivery and discharge into the System of sewage from sources other than a Participant, or to enter into agreements with any municipality or county or with any other person providing for or relating to the disposal of sewage or with respect to the delivery or discharge into the System of sewage or other wastes originating outside the District.

Section 702. Enforcement. The Authority will at all times take all reasonable measures permitted by the Act or otherwise by law to collect and enforce prompt payment to or for it of all Service or Annual Charges prescribed, fixed, certified or charged by it in accordance with the Service Contract. If any payment or part

thereof due to the Authority from any Participant shall remain unpaid for thirty days following its due date, such Participant shall be charged with and will pay to the Authority interest on the amount unpaid from its due date until paid, at the rate of ten per centum (10%) per annum, and the Authority, in its discretion, may charge and collect Service Charges with regard to persons and real property within such Participant sufficient to meet any default or deficiency in any payments herein agreed to be made by such Participant. If in any such case Service Charges are so collected the amount so collected by the Authority, less the cost to the Authority of collecting the same, will be credited against the amount of such default or deficiency or any payments then or theretofore due to the Authority from such Participant under the provisions of Article IV, and the Authority will furnish to such Participant a list of the names of the Persons making payment to the Authority of such Service Charges and of the several amounts so paid by such Persons respectively, and the Participant will give fair and proper credit to such Persons for the several amounts so paid by them. Every obligation assumed by or imposed upon a Participant by the Service Contract shall be enforceable by the Authority by appropriate action or proceeding, and the Authority may have and pursue any and all remedies provided by law for the enforcement of such obligation including the remedies and processes provided by the Act with respect to Service Charges.

Section 703. Effect of Breach. Failure on the part of

the Authority or any Participant in any instance or under any circumstance to observe or fully perform any obligation assumed by or imposed upon it by the Service Contract or by law shall not make the Authority liable in damages to any Participant or relieve any Participant from making any payment to the Authority or fully performing any other obligation required of it under the Service Contract, but such Participant may have and pursue any and all other remedies provided by law for compelling performance by the Authority of said obligation assumed by or imposed upon the Authority.

Section 704. Certain Acts not a Waiver. Acceptance by the Authority into the System of sewage or other wastes in volume or at a rate or with characteristics exceeding or violating any limit or restriction provided for by or pursuant to the Service Contract in one or more instances or under one or more circumstances shall not constitute a waiver of such limit or restriction or of any of the provisions of the Service Contract and shall not in any way obligate the Authority thereafter to accept or make provision for sewage or wastes delivered into the System in a volume or at a rate or with characteristics exceeding or violating any such limit or restriction in any other instance or under any other circumstance.

Section 705. Special Consents or Requests by Participants. Whenever under the terms of the Service Contract a Participant is authorized to give its written consent or any notice

or make any request, such consent, notice or request may be given or made and shall be conclusively evidenced by a copy, certified by its Clerk and under its seal, of a resolution purporting to have been adopted by its governing body and purporting to give or make such consent, notice or request.

Section 706. Special Consents by Authority. (A)

Whenever under the terms of the Service Contract the Authority is authorized to give its written consent, such consent may be given and shall be conclusively evidenced by a copy, certified by its Secretary and under its seal, of a resolution purporting to have been adopted by the Authority or its members and purporting to give such consent.

(B) Whenever under the terms of the Service Contract the Authority is authorized to give its written consent, the Authority, in its discretion, may give or refuse such written consent and, if given, may restrict, limit or condition such consent in such manner as it shall deem advisable, but no such consent shall be unreasonably withheld.

Section 707. Pledge or Assignment. The Authority may at any time assign or pledge for the benefit and security of the holders of Bonds any or all of its rights under the provisions of the Service Contract to receive payments from any Participant, and thereafter the Service Contract shall not be terminated, modified or changed by the Authority or such Participant except in the manner (if any) permitted, and subject to the conditions (if any) imposed, by the terms and provisions

of such assignment or pledge.

Section 708. Effective Term of Service Contract. This Service Contract shall be in full force and effect and be legally binding upon the Authority and upon all of the Participants which shall then have executed the same, upon its execution and delivery by the Authority and by any such selection of the ten Participants hereinabove named, representing seventy per centum (70%) of the total projected 1980 flow as set forth in "Schedule D" attached hereto and by this reference made a part hereof. At any time after five years from the date of the Service Contract, and after the payment in full of all obligations of the Authority, including its Bonds, original or refunding or both, issued to finance the construction, replacement, maintenance or operation of the System, the Service Contract, upon two years' notice to the Authority and to each of the Participants, may be terminated by (1) the Authority, or (2) any six or more of the Participants.

Section 709. Execution in Counterparts. This agreement may be executed in any number of counterparts each of which shall be executed by the Authority and any one or more of the Participants and all of which shall be regarded for all purposes as one original and shall constitute and be but one and the same.

IN WITNESS WHEREOF, the Authority and the Participants have caused their respective corporate seals to be hereunto affixed and attested and these presents to be signed by their respective officers thereunto duly authorized and this agree-

ment to be dated as of the day and year first above written.

(SEAL)

THE ROCKAWAY VALLEY REGIONAL SEWERAGE AUTHORITY

ATTEST:

Chester F. Ritzer  
Secretary  
CHESTER F. RITZER

By William H. Francisco, Jr.  
Chairman  
WILLIAM H. FRANCISCO, JR.

(SEAL)

THE MAYOR AND COMMON COUNCIL OF THE TOWN OF BOONTON

ATTEST:

Thomas E. Hopkins  
Town Clerk  
THOMAS E. HOPKINS

By Richard H. Yanni  
Mayor  
RICHARD H. YANNI

THE TOWNSHIP OF BOONTON, IN THE COUNTY OF MORRIS

(SEAL)

ATTEST:

Wm. H. Resnick  
Township Clerk  
Wm. H. Resnick

By Oscar A. Kincaid  
Mayor  
OSCAR A. KINCAID

THE TOWNSHIP OF DENVILLE, IN THE COUNTY OF MORRIS

(SEAL)

ATTEST:

Wm. A. Smaardine  
Township Clerk

By Walter J. Taylor  
Mayor

TOWN OF DOVER

(SEAL)

ATTEST:

*S. S. D. D.*

By Richard H. Newman  
Mayor  
RICHARD H. NEWMAN

(SEAL)

ATTEST:

Charles T. Nichols  
Borough Clerk  
CHARLES T. NICHOLS

BOROUGH OF ROCKAWAY

By Patrick A. Donofrio  
Mayor  
PATRICK A. DONOFRIO

(SEAL)

ATTEST:

Evelyn K. Moran  
Township Clerk  
EVELYN K. MORAN

THE TOWNSHIP OF ROCKAWAY, IN  
THE COUNTY OF MORRIS

By Robert A. Galdon  
Mayor  
ROBERT A. GALDON

(SEAL)

ATTEST:

William Venne  
Secretary  
WILLIAM VENNE

THE RANDOLPH TOWNSHIP MUNICIPAL  
UTILITIES AUTHORITY

By Gary S. Salzman  
Chairman  
GARY S. SALZMAN

(SEAL)

ATTEST:

Doris M. Ryan  
Township Clerk  
DORIS M. RYAN

THE TOWNSHIP OF RANDOLPH, IN  
THE COUNTY OF MORRIS

By Stephen B. Richer  
Mayor  
STEPHEN B. RICHER

(SEAL)

ATTEST:

Anthony P. Guadagnino  
Borough Clerk  
ANTHONY P. GUADAGNINO

BOROUGH OF WHARTON

By Thomas Grohowski  
Mayor  
THOMAS GROHOWSKI

(SEAL)

THE WHARTON SEWERAGE AUTHORITY

ATTEST:

By *Chester F. Ritzer*  
Chairman  
CHESTER F. RITZER

*Patricia A. Trimmer*  
Secretary

PATRICIA A. TRIMMER

CONNECTIONS TO THE  
ROCKAWAY VALLEY REGIONAL SEWERAGE AUTHORITY  
PROPOSED REGIONAL INTERCEPTOR SYSTEM. (8"  $\phi$  and larger)

<u>Contract No.</u>	<u>Station</u>	<u>(In.) Diameter</u>	<u>Invert</u>	<u>Municipality</u>	<u>Description</u>
T.S.	3+84	12	324. +	Town of Boonton	Sewer downstream of Reservoir Drive* from "FLATS" or Industrial Area.
B	10+55	8	380.33	Town of Boonton	Sewer from School @ Boyd Street.
B	16+50	2@8	379.66N 377.23S	Town of Boonton	Laterals in Old Boonton Road.
B	23+50	8	393.11	Town of Boonton	Madison Street lateral connection.
T.S.	14+65	8	325. +	Town of Boonton	Reservoir Drive Lateral.*
T.S.	25+10	8	325. +	Town of Boonton	Boyd Street & Reservoir Drive Lateral.*
T.S.	39+33	8	328. +	Town of Boonton	Washington Street Lateral.*
T.S.	69+00	8	353. +	Town of Boonton	Harrison Street Lateral.*
T.S.	76+30	16	355. +	Town of Boonton	Future South Boonton connection.
T.S.	80+49	8	378. +	Town of Boonton	Lincoln Street Lateral.*
T.S.	81+78	8	380. +	Town of Boonton	Monroe Street Lateral.*
T.S.	95+87	12	394. +	Town of Boonton	Plane Street connection.*
T.S.	104+37	8	471. +	Town of Boonton	Connection Parking Area behind Main Street*
T.S.	119+74	10	472. +	Town of Boonton	North Main @ West Main from Highland.*
B	88+30	10	475.27	Town of Boonton	North Main @ North Main from Hillside.
T.S.	128+20	8	483. +	Town of Boonton	West Main Street Lateral.*
T.S.	138+42	8	485. +	Town of Boonton	West Main Street Lateral.*
T.S.	143+17	8	485. +	Town of Boonton	Chestnut Street Lateral.*
T.S.	150+56	8	486. +	Boonton Township	Riverside Hospital.*
T.S.	155+96	8	490. +	Boonton Township	Powerville Road.*
T.S.	171+32	8	492. +	Boonton Township	DeCamp Road.*
B	112+60	2@8	483.54	Boonton Township	Stubs for North Main Street.
B	126+70	8	487.48	Boonton Township	Stub for Powerville Road.
B	128+20	30	485.73	Boonton Township	Stub for Boonton Township etc.
B	133+20	8	500. +	Boonton Township	Stub for Old Denville Road.
B	192+00	2@8	490.10	Boonton Township	Stubs for Boonton Water Works & access road.
DV	17+20	2@8	492.92	Denville Township	Stubs for Boonton Road.
DV	50+40	8	494.26	Denville Township	Stub for golf course.
DV	63+25	8	495.79	Denville Township	Pick up Denville Road.
DV	63+25	8			

Station	Diameter (In.)	Invert	Municipality	Description
84+25	10	500.00	Denville Township	Connect existing St. Francis Lateral.
93+05	8	500.00	Denville Township	Connect existing lateral.
100+25	2@12	501.40	Denville Township	Connect existing lateral & provide stub - Cedar Lake Road.
115+95	2@8	499.48	Denville Township	Stubs for Morris Avenue.
121+15	12	498.97	Denville Township	Connect existing sewer near church.
129+10	8	504.00	Denville Township	Connect existing sewer-Savage Road, (N).
129+10	24	503.39	Denville Township	Connect existing Donbrook Interceptor. - Savage Road (S).
135+65	8	503.00	Denville Township	Connect existing sewer - Anna Street.
166+30	14	505.00	Denville Township	Connect existing Beaver Brook Trunk.
6+25	24	506.00	Rockaway Twp.	Connect existing Beaver Brook Trunk sewer.
10+10	8	504.63	Rockaway Borough	Connect existing sewer - Stickle Avenue(N).
10+10	10	504.40	Rockaway Borough	Connect proposed sewer - Stickle Avenue(S).
24+95	8	505.30	Rockaway Borough	Connect proposed sewer - Ogden Avenue.
29+25	10	506.50	Rockaway Borough	Connect Rockaway Borough Sewer - Union.
29+25	8	506.50	Rockaway Borough	Connect Rockaway Borough Sewer - Halsey
33+65	15	506.50	Rockaway Twp.	
			Rockaway Borough	Connect existing sewers - Mott
39+25	10	521.33	Rockaway Borough	Connect existing sewer - Main Street (N).
44+25	8	517.80	Rockaway Borough	Connect proposed sewer from Main Street(S).
66+97	10	520.10	Rockaway Borough	Connect proposed sewer from Franklin Avenue.
71+97	8	522.00	Rockaway Borough	Connect force main from across Rockaway River.
102+72	10	529.53	Rockaway Borough	Connect McWilliams Forge.
104+82	10	528.36	Rockaway Borough	Connect existing Rockaway Borough sewer.
126+42	8	531.15	Rockaway Twp.	Connect Howmet Corporation.
145+72	30	532.80	Randolph Twp.	Proposed Millbrook connection.
145+72	8	534.97	Rockaway Twp.	Connect existing sewer Rockaway Road.
146+62	12	539.56	Victory Gardens	Connect existing trunk sewer.
167+37	12	537.34	Rockaway Twp.	Connect existing sewer - Carrol Street.
0+00	12	538.87	Town of Dover	Connect existing sewer from across Rockaway River.
588+65	8	544.±	Town of Dover	Sammis Street lateral sewer. *
591+06	2@8	544.±(H)	Town of Dover	Hooey Street & Blackwell Street laterals at intersection of Hooey and Blackwell. *
		543.±(B)		
599+71	12	546.±	Town of Dover	Lateral sewer in North Salem Street. *
599+70	20	543.±	Rockaway Twp.	Lateral sewer in North Salem Street *
617+00	0	540.±		

No.	Location	Diameter	Invert	Municipality	Description
T.S.	620+44	8	549. +	Town of Dover	Union Street lateral sewer.
T.S.	628+44	2@8	552. +	Town of Dover	Berger Street lateral sewers. *
T.S.	631+15	2@8	555. +	Town of Dover	Essex Street lateral sewers. *
T.S.	633+75	2@8 & 10	558. +	Town of Dover	Morris Street laterals serving Morris Street and large portion of South Dover. *
T.S.	636+44	2@8	561. +	Town of Dover	Lateral sewers-intersection of Sussex & Blackwell *
T.S.	639+02	8	565. +	Town of Dover	Warren Street lateral sewer. *
T.S.	639+39	2@8	565. +	Town of Dover	Warren Street lateral sewers. *
T.S.	644+43	8	572. +	Town of Dover	Prospect Street lateral. *
T.S.	647+90	8	576. +	Town of Dover	Dewey Street lateral. *
T.S.	653+96	8	577. +	Town of Dover	Randolph Avenue lateral. *
T.S.	667+42	10	578. +	Randolph Twp.	Hurd Park sewer from Mt. Fern. *
T.S.	668+16	10	578. +	Town of Dover	Hurd Park sewer from hospital. *
T.S.	P.A. 4+23	8	579. +	Town of Dover	Harvard Ave. lateral sewer (Princeton Avenue) *
T.S.	P.A. 6+32	8	581. +	Town of Dover	Yale Street lateral sewer (Princeton Avenue) *
T.S.	P.A. 9+40	8	583. +	Town of Dover	Lehigh St. lateral sewer (Princeton Avenue) *
T.S.	P.A. 11+93	8	584. +	Town of Dover	Rutgers Street lateral sewer (Princeton Avenue) *
T.S.	P.A. 14+43	8	586. +	Town of Dover	Columbia St. lateral sewer (Princeton Avenue) *
T.S.	P.A. 21+10	12	597. +	Wharton Borough	Racine Street lateral sewer (Princeton Avenue) *
T.S.	678+86	8	581. +	Town of Dover	Baker Avenue lateral sewer. *
T.S.	685+97	8	619. +	Town of Dover	North Elk Avenue lateral sewer. *
T.S.	691+59	8	625. +	Town of Dover	Grover Road lateral sewer. *
T.S.	692+76	10	578. +	Wharton Borough	Route 46 sewer - Ford Street. *
D	35+10	20	544. 93	Rockaway Twp.	Proposed Oak Street branch interceptor.
D	72+78	30	571. 10	Randolph Twp.	Proposed Granny Brook Interceptor sewer.
W	12+20	15	601. 24	Wharton Borough	Connect existing Wharton Trunk Sewer.
W	24+50	30	606. 06	Rockaway Twp.	Proposed Green Pond Brook Interceptor sewer.
W	53+85	14	625. 00	Wharton Borough	Future connection - Main Street
W	71+40	8	641. 5	Wharton Borough	Connect existing Dewey Street sewer.
W	82+30	8	647. 5	Wharton Borough	Stub for Central Avenue.
W	94+95	8	660. 03	Rockaway Twp.	Stub for Lewis Street.
W	99+85	8	662. 68	Rockaway Twp.	Stub - private road.
W	111+20	30	662. 00	Jefferson & Roxbury	Stub for Jefferson Twp. and Roxbury Twp.

\*: Existing connection to trunk sewer.

- All existing connections to the interceptor sewer will be reconnected, directly or indirectly, to the new interceptor sewer.
- All connections to the trunk sewer will be reconnected, directly or indirectly, to the new trunk sewer.

FORMULA FOR COMPUTING ANNUAL USER CHARGES  
FOR OPERATION AND MAINTENANCE AND SURCHARGE  
FOR WASTEWATERS OF EXCESSIVE STRENGTH.

Page 1

1. Annual user charges for operation and maintenance equals:  
total operation and maintenance cost per year  
minus income from surcharges, fines, etc.  
divided by the total volume contributions from all users per year  
times volume contribution from each user per year  
minus the credits paid by Jersey City in accordance with  
Stipulation of Settlement.

$$C_u = \left[ (C_t - I_m) \div V_t \right] V_u - J_C$$

2. Surcharge for wastewaters of excessive strength equals:  
operation and maintenance cost for treatment of a unit of  
biochemical oxygen demand (BOD)  
times concentration of BOD from a user above a base level  
plus operation and maintenance cost for treatment of a unit of  
suspended solids  
times concentration of suspended solids from a user above a  
base level  
plus operation and maintenance cost for treatment of a unit of  
any pollutant  
times concentration of any pollutant from a user above a base level  
times total BOD contribution from a user per year.

$$C_s = [B_c(B) + S_c(S) + P_c(P)] V_u$$

Definitions

- $C_t$  = Total operation and maintenance (O & M) costs per year.  
 $C_u$  = A user's charge for O & M per year.  
 $C_s$  = A surcharge for wastewaters of excessive strength.  
 $V_u$  = Volume contribution from a user per year.  
 $V_t$  = Total volume contribution from all users per year.  
 $B_c$  = O & M cost for treatment of a unit of biochemical oxygen demand (BOD).  
 $B$  = Concentration of BOD from a user above a base level.  
 $S_c$  = O & M cost for treatment of a unit of suspended solids.  
 $S$  = Concentration of suspended solids from a user above a base level.  
 $P_c$  = O & M cost for treatment of a unit of any pollutant.  
 $P$  = Concentration of any pollutant from a user above a base level.  
 $J_C$  = Jersey City contribution in accordance with stipulation of Settlement.  
 $I_m$  = Miscellaneous income from surcharges, fines, etc.  
 Base level = Sewerage having the characteristics of domestic wastes.

FORMULA FOR COMPUTING ANNUAL USER CHARGES  
FOR OPERATION AND MAINTENANCE AND SURCHARGE  
FOR WASTEWATERS OF EXCESSIVE STRENGTH.

Annual user charges for operation and maintenance equals:  
total operation and maintenance cost per year  
minus income from surcharges, fines, etc.  
divided by the total volume contributions from all users per year  
times volume contribution from each user per year  
minus the credits paid by Jersey City in accordance with  
Stipulation of Settlement.

$$C_u = [ ( C_t - I_m ) \div V_t ] V_u - J_C$$

Surcharge for wastewaters of excessive strength equals:  
operation and maintenance cost for treatment of a unit of  
biochemical oxygen demand (BOD)  
times concentration of BOD from a user above a base level  
plus operation and maintenance cost for treatment of a unit of  
suspended solids  
times concentration of suspended solids from a user above a  
base level  
plus operation and maintenance cost for treatment of a unit of  
any pollutant  
times concentration of any pollutant from a user above a base level  
times total BOD contribution from a user per year.

$$C_s = [ R_c(B) + S_c(S) + P_c(P) ] V_u$$

Definitions

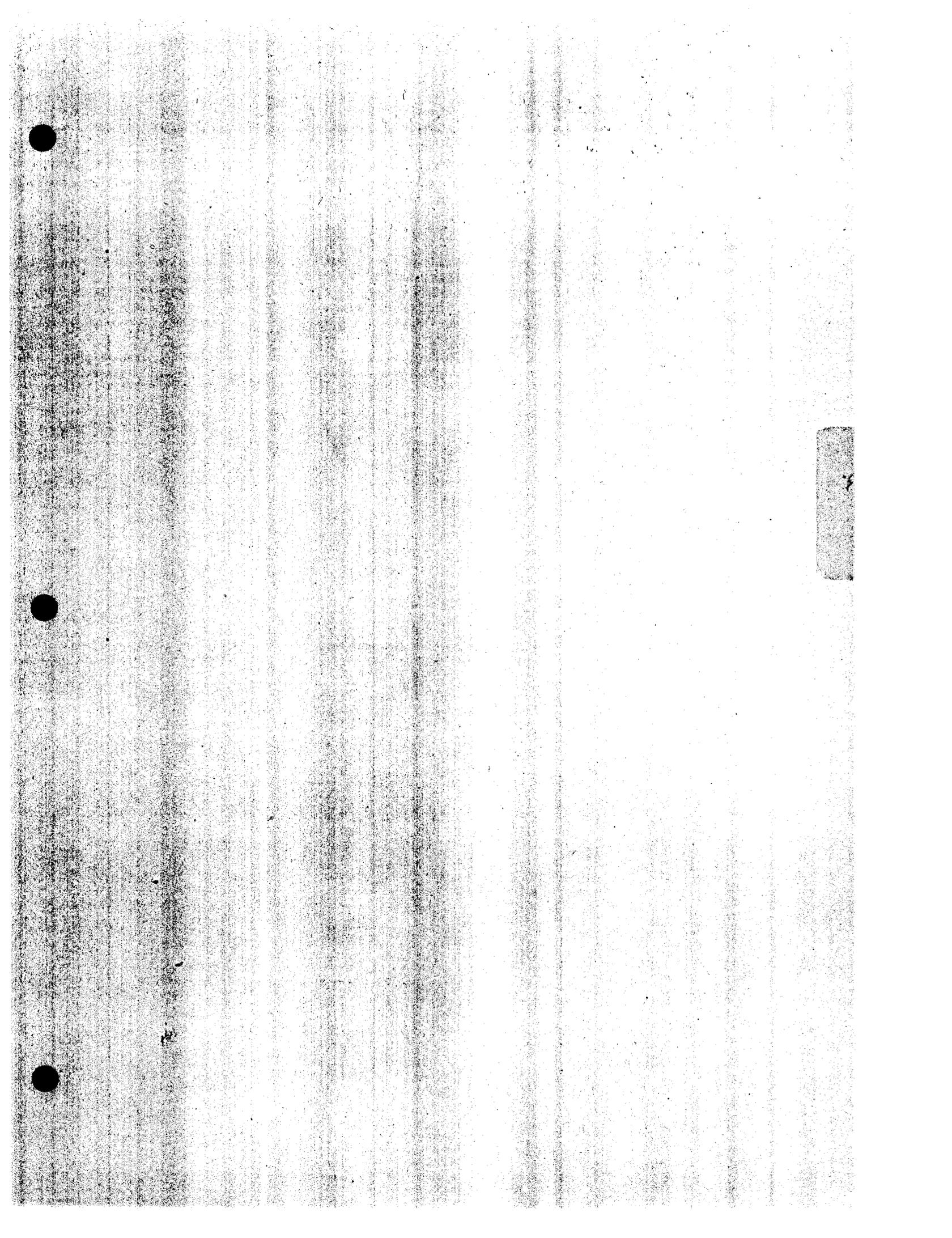
- = Total operation and maintenance (O & M) costs per year.
- = A user's charge for O & M per year.
- = A surcharge for wastewaters of excessive strength.
- = Volume contribution from a user per year.
- = Total volume contribution from all users per year.
- = O & M cost for treatment of a unit of biochemical oxygen demand (BOD).
- = Concentration of BOD from a user above a base level.
- = O & M cost for treatment of a unit of suspended solids.
- = Concentration of suspended solids from a user above a base level.
- = O & M cost for treatment of a unit of any pollutant.
- = Concentration of any pollutant from a user above a base level.
- = Jersey City contribution in accordance with Stipulation of Settlement.
- = Miscellaneous income from surcharges, fines, etc.
- base level = Sewerage having the characteristics of domestic wastes.



ESTIMATED 1980 AVERAGE DAILY WASTEWATER FLOW

	<u>Flow MGD</u>	<u>Percent of Flow</u>
Town of Boonton	0.7	8.86
Towuship of Boonton	0.1	1.26
Township of Denville	1.3	16.46
Town of Dover	1.7	21.52
Township of Randolph	1.5	18.99
Borough of Rockaway	0.7	8.86
Township of Rockaway	1.3	16.46
Borough of Wharton	<u>0.6</u>	<u>7.59</u>
	7.9	100%
Customers	0.4	
Total Average Daily Wastewater Flow	<u>8.3</u>	

SCHEDULE D



TAB NO. 13

CONSTRUCTION AND OPERATING PERMIT

FOR THE

ROCKAWAY TOWN SQUARE MALL

# FOR CONSTRUCTION ONLY

C-96  
T-C-

WP2/1  
Nov. 74

## STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION OF THE STATE OF NEW JERSEY

Permit No. SC-3-75-5440

### CERTIFICATION APPROVING APPLICATION OF

Copaken, White & Blitt  
P.O. Box 656, Shawnee Mission, Kansas

for permission to construct a gravity collection system, pumping station, force main and new temporary sewage treatment plant (dry) (100,000 GPD) in the Township of Rockaway, New Jersey

Date June 10, 1975

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An application (\*) having been duly made to the State Department of Environmental Protection of the State of New Jersey, pursuant to the applicable provisions of Article 58 of the Revised Statutes of New Jersey for the approval of conditions under which

Copaken, White & Blitt

hereinafter referred to as the applicant proposes to construct a gravity collection system, pumping station, force main and new temporary sewage treatment plant (dry) consisting of extended aeration plant with surge storage tank, tertiary filter, chlorination, spray irrigation field and ground recharge basins located adjacent to Route 80, Mount Hope Avenue and Mount Pleasant Avenue; shown on prints identified as "Rockaway Town Square Rockaway Township, Morris County, New Jersey Plans and Specifications Extended Aeration Waste Disposal Facility Capacity 100,000 G.P.D.;" twelve in number; dated October 7, 1974 February 19, 1975 inclusive; received February 20, 1975; and approved by the Department of Environmental Protection of the State of New Jersey on June 10, 1975; and according to specifications included in plans entitled "Rockaway Town Square, Rockaway Township, Morris County, New Jersey Plans and Specifications Extended Aeration Waste Disposal Facility Capacity 100,000 G.P.D.;" dated November 1974; received February 20, 1975; and approved by the Department of Environmental Protection of the State of New Jersey on June 10, 1975;

in the Township of Rockaway, New Jersey; disposal of sewage by spray irrigation (0.1 MGD-design capacity)

This is to certify that the State Department of Environmental Protection of the State of New Jersey, on this 10th day of June 1975 hereby grants permission to the applicant, to build said works in accordance with the said plans and/or other engineering data and aforesaid conditions, the said permission being subject to the following conditions.

I. That the permit is revocable or subject to modification or change, at any time when in the judgment of the State Department of Environmental Protection of the State of New Jersey such revocation, modification or change shall be necessary.

II. That the issuance of this permit shall not be deemed to affect in any way action by the State Department of Environmental Protection of the State of New Jersey on any future application that may be made for permission to discharge additional sewage or industrial wastes into the waters of the State.

III. That no physical connection(s) shall be installed or permitted to exist between any unit or pipeline of any public potable water system and any unit or pipeline into or through which sewage or sewage effluent discharges or may discharge.

IV. That in the examination of plans and/or other engineering data, the State Department of Environmental Protection of the State of New Jersey does not examine structural features such as thickness of concrete, adequacy or reinforcing or the efficiency of any of the mechanical equipment or apparatus; nor features which may involve potential gas hazards; and the approval herewith given does not include these features.

V. That the permit to construct said works herein approved does not exempt, or shall not be construed to exempt, the applicant from complying with Section 58:1-26 of the Revised Statutes, which provides that no structure within the natural and ordinary high watermark of any stream shall be made by the public authority or private person or corporation without notice to the State Department of Environmental Protection, Division of Water Resources.

VI. That this permit to construct said works herein referred to, does not exempt, or shall not be construed to exempt, the applicant from complying with the rules and regulations and policies or laws lodged in any agency or subdivision in this State having legal jurisdiction.

VII. That the said works shown by plans and/or other engineering data, which are this day approved subject to conditions herewith established, shall be fully constructed in complete conformity with such plans and/or other engineering data and the aforesaid conditions.

VIII. That the approval of plans and/or other engineering data for the above works shall remain in force for a period of only two years from the date of approval unless the said works are constructed or the contract awarded for the construction of such works.

IX. That no sewage shall be conveyed by the said works or portion thereof to which this permit relates; until a professional engineer licensed to practice engineering in the State of New Jersey has certified that the project has been inspected under his supervision and constructed according to approved plans and specifications.

## FOR CONSTRUCTION ONLY

Date June 10, 1975  
Permit No. SC-3-75-5440

X. This permit does not imply, nor shall it be construed to imply, compliance with the "Federal Water Pollution Control Act Amendments of 1972." Additional treatment, as required to comply with the aforesaid Federal Regulations shall be provided.

XI. That the applicant comply with the following permit application requirements under the Federal Water Pollution Control Act Amendments of 1972, National Pollutant Discharge Elimination System (N.P.D.E.S.):

Federal Register, Volume 38, Number 98, Part III, Environmental Protection Agency, National Pollutant Discharge Elimination System, Tuesday, May 22, 1973.

Section 125.12 (e) "Any persons whose discharge will begin on or after July 16, 1973 must apply for a permit no later than 180 days in advance of the date on which the discharge is to commence unless permission for a later application date has been granted by the Regional Administrator."

XII. That the sewage or other polluting matter, prior to discharge onto the spray irrigation fields and/or to the ground recharge basins from the sewage treatment plant herein approved shall first be treated to produce effluent of such a nature as to protect or enhance the quality of the receiving waters in accordance with the current surface water quality criteria of the Department of Environmental Protection.

The following minimum effluent quality requirements shall apply:

- a) Free of noticeable color, oil or grease
- b) Free of toxic or deleterious substances and free of offensive odors
- c) pH range from 6.5 to 8.5
- d) Total chlorine residual (5 minutes) not less than 1.0 milligrams per liter nor more than 2.5 milligrams per liter
- e) Geometric mean not exceeding 20 fecal coliforms per 100 ml
- f) Five-day biochemical oxygen demand not exceeding 5 milligrams per liter (mg/l) during any four-hour period nor more than 10 mg/l at any time
- g) Suspended solids not exceeding 5 milligrams per liter (mg/l) during any four-hour period nor more than 10 mg/l at any time
- h) Residual dissolved oxygen concentration not less than 2.0 mg/l at any time.

# FOR CONSTRUCTION ONLY

WP2/4a

Permit No. SC-3-75-5440

Date June 10, 1975

XIII. That the operation of the spray irrigation system herein approved shall be monitored to measure quality trends for groundwater; samples from the four proposed monitoring wells shall be gathered and analyzed for concentrations of: ammonia as nitrogen; nitrate as nitrogen; chlorides; total phosphate; detergents; and bacteriological analysis for coliforms; all on a monthly basis, unless otherwise altered in a manner as approved by this Department.

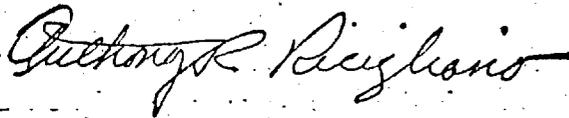
XIV. That should such monitoring data indicate unsatisfactory operation of the treatment and/or disposal system, appropriate modifications shall be initiated and completed in an expeditious manner, as may be approved by this Department, to remedy such deficiencies.

XV. That a licensed operator shall be in charge on the first day of operation of the wastewater treatment plant and continually thereafter and the name of the proposed operator shall be submitted to this Department prior to completion of construction in order that his qualifications may be determined.

XVI. That the treatment plant herein approved shall be abandoned when public sewerage facilities become available.

(\* Application dated November 15, 1974; received February 20, 1975; signed by Richard J. Jeske, P.E., Robert A. Galdon, Township Mayor, Paul Copaken, Developer.

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION



Anthony R. Ricigliano, P.E.  
Assistant Director  
Public Wastewater Facilities Element