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EXHIBITS.

Notice of Appeal

Filed February 17th, 1920

New Jersey Supreme Court

MICHAEL I. FAGEN, Director of the Department of Streets and Public Improvements of the City of Jersey City, *Prosecutor,*	
VS.	On Certiorari.
THE MAYOR AND COMMON COUNCIL OF THE BOROUGH OF WHARTON, THE DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NEW JERSEY, AND THE NORTH JERSEY WATER SUPPLY DISTRICT, *Respondents.*	On Appeal. Notice of Appeal.

To DAVID F. BARKMAN, Attorney for Respondent, the Mayor and Common Council of the Borough of Wharton;

THOMAS F. MCCRAN, Attorney for Respondent, the Department of Conservation and Development of the State of New Jersey; and

FRANK SOMMER, Attorney for Respondent, the North Jersey Water Supply District.

GENTLEMEN:

PLEASE TAKE NOTICE, that the above named prosecutor hereby appeals to the Court of Errors and Appeals from the judgment heretofore entered in the above entitled proceeding in the New Jersey Supreme Court upon the following grounds:

1. The Department of Conservation and Development of the State of New Jersey, which board or body granted the permit herein complained of, has no jurisdiction in the premises whatsoever.

2. Jurisdiction in the premises for the allowing of a permit or grant to divert water from the Rockaway River resides solely in the North Jersey Water Supply District.

3. The granting of the permit herein complained of is totally at variance with the laws of this State and the policy of those laws regarding conservation and development of natural resources.

4. The granting of such permit is an illegal interference with a vested property right of the Mayor and Aldermen of Jersey City, a municipal corporation of the State of New Jersey, whose legal representative prosecutor herein is.

5. It is unlawful for the Mayor and Common Council of the Borough of Wharton to divert waters from the Rockaway River to the serious detriment of the lower Riparian owner, the Mayor and Aldermen of Jersey City.

6. The granting of this permit without compensation to the Mayor and Aldermen of Jersey City and without any present unavoidable neces-

sity is unlawful, and is a taking of property without compensation.

7. The allowance of such a permit or grant is a taking of property or a violation of property rights without due process of law.

8. The allowance of this permit or grant is not conducive to conservation of the natural resources of this State, and permits the Mayor and Common Council of the Borough of Wharton to take the waters of said river as their flow, while the Mayor and Aldermen of Jersey City is forced to build reservoirs and storage plants in order to conserve and store up such waters.

9. The said grant or permit is in divers other respects illegal, unjust and oppressive, and should be set aside and be for nothing holden.

Dated, February 10th, A. D., 1920.

THOMAS J. BROGAN,
Attorney for Prosecutor.

Writ of Certiorari.

NEW JERSEY, ss.

THE STATE OF NEW JERSEY TO THE MAYOR AND COMMON COUNCIL OF THE BOROUGH OF WHARTON, THE DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NEW JERSEY, AND NORTH JERSEY WATER SUPPLY DISTRICT, GREETING:

(L. S.)

We being willing, for certain reasons appearing by affidavit of Michael I. Fagen, filed in this cause, to be certified of a certain grant or permit given by the Department of Conservation and Development to the Borough of Wharton, permitting the said Borough of Wharton under certain conditions to divert an average of 500,000 gallons of water per day during any month from the Rockaway River:

WE COMMAND YOU, that the said grant or permit, together with the records of the meetings and hearings before the said Department of Conservation and Development, and all matters touching and concerning the said grant or permit on the application of the Borough of Wharton for the diversion of 500,000 gallons of water per day from the said Rockaway River, at our Supreme Court of Judicature at Trenton, on the 9th day of May, 1919, you certify and send, together with this writ, that therein may be done what of right and according to the laws of the State of New Jersey ought to be done.

WITNESS, WILLIAM S. GUMMERE, Esq., Chief Justice of our Supreme Court at Trenton, this 19th day of April, in the year of our Lord One Thousand Nine Hundred and Nineteen.

ENOCH L. JOHNSON,
Clerk.

THOMAS J. BROGAN,
Attorney.

(Endorsed)

NEW JERSEY SUPREME COURT.

MICHAEL I. FAGEN, DIRECTOR OF THE DEPARTMENT OF STREETS AND PUBLIC IMPROVEMENTS OF THE CITY OF JERSEY CITY.

Prosecutor.

— VS. —

THE MAYOR AND COMMON COUNCIL OF THE BOROUGH OF WHARTON AND THE DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NEW JERSEY, AND NORTH JERSEY WATER SUPPLY DISTRICT,

Respondents.

WRIT OF CERTIORARI.

Returnable May 9th, 1919.

THOS. J. BROGAN,
Attorney for Prosecutor,
City Hall, Jersey City, N. J.

This writ is allowed. Let it be sealed.
April 19, 1919.

F. J. SWAYZE,
J. S. C.

Return to Writ.

To the Honorable, the Justices of the Supreme Court of Judicature of New Jersey:

In obedience to the command of the annexed Writ to us directed, the Board of Conservation and Development by Henry Crofut White, President, Percival Chrystie, J. L. Kuser, William J. Kraft, Simon P. Northrup, Isaac F. Richey, George A. Steele, and William E. Tuttle, Jr., do hereby certify to you, the Honorable Justices of the Supreme Court of Judicature of New Jersey, the grant or permit given by the Department of Conservation and Development to the Borough of Wharton, permitting the said Borough of Wharton under certain conditions to divert an average of five hundred thousand gallons of water per day during any month from the Rockaway River, and all matters touching and concerning the said grant or permit as aforesaid, including the testimony taken by said Board as fully and entirely as the same remains in its hands and possession as by the said Writ said Board of Conservation and Development is commanded, as appears by the schedule hereinunder written.

IN WITNESS WHEREOF, the said Board has hereunto set its hand and affixed its seal this eighth day of May, 1919, by the Director of Conservation and Development.

(seal)

ALFRED GASKILL,
Director.

SCHEDULE

Exhibit 1a—Application of the Borough of Wharton.
1b—General data to accompany Application.
2 —Notice of Hearing.
3 —Affidavits of Publication and Posting of Notice.
4 —Testimony taken at Hearing.
5 —Approval of Application by Board.
6 —Acceptance of Approval by Borough of Wharton.
7 —Writ of Certiorari.

To the Honorable, the Justices of the Supreme Court of Judicature of New Jersey:

In obedience to the command to this writ, to us directed, the Borough of Wharton, of the County of Morris and State of New Jersey, within named, do send, under seal of the Borough, to you, the Honorable Justices of the Supreme Court of Judicature of New Jersey, the grant and permit lately made and rendered by the Department of Conservation and Development of the State of New Jersey, together with the records of the meetings and hearings before the said Department of Conservation, and all matters touching or concerning said grant or permit on the application of the Borough of Wharton for the diversion of 500,000 gallons of water from the said Rockaway River, as appears by schedule hereunto annexed, as we are commanded.

IN WITNESS WHEREOF, PETER E. STRYKER, Mayor of the Borough of Wharton, has set his hand and annexed the seal of said Borough, and the same attested by the said Clerk of the said Borough.

(seal)

PETER E. STRYKER,
Mayor.

Attested:
JOHN S. KERNICK,
Clerk.

DAVID F. BARKMAN,
Morristown, N. J.,
Atty. for Borough of Wharton.

Exhibit 1a.

APPLICATION No.

STATE OF NEW JERSEY

DEPARTMENT OF CONSERVATION AND DEVELOPMENT.

Division of Geology and Waters

State House, Trenton

Application of *Borough of Wharton, N. J.*
(Name of applicant.)
Peter E. Stryker, Mayor, Wharton, N. J., for
(Address.)
approval of *its* plans for *additional surface*
(New or additional.)
water-supply.
(surface, sub-surface or combination.)
Filed in the Department office *Oct.* 12, 1918.
Action of the Board of Conservation and Development ..... 19.....

Exhibit 1a

.....N. J.

..... 19.....

To the Board of Conservation and Development:
In compliance with the provisions of Chapter 252, P. L. 1907, and Chapter 304, P. L. 1910.....
Borough of Wharton, N. J., Peter E. Stryker,
(Name of applicant.)
Mayor, hereby makes application for the approval of *its* plans for diverting a maximum of 500,000 gallons daily for the purpose of obtaining *additional* source of water supply from *Rockaway River.*
(New or additional.)
(Give name of stream or other source of supply.)

.....

the point of the proposed diversion being located *near the junction of Stephens Brook,*.....
(Give county, township, distance and direction from some prominent, nearby geographical feature.)

.....

for the purpose of supplying water to *the Borough of Wharton.*

Description of Plans proposed. Source:—The
(State the municipalities to be supplied, giving brief description of
source of the proposed water supply for the said
the boundary of the territory when **not** restricted by established mu-
Borough is the Rockaway River, where the same
nicipal limits. This information should supplement the map which is required under rule No. 2e, see form G 46—Rules regarding applications for water-supply.)
is joined by a stream known as Stephen's Brook. The said point of intake is indicated and marked on map "A" submitted herewith. The land necessary for the pumping station is situated on the South of said Rockaway River and West of Poppenhusen Street and North of Central Railroad. At this point there will be constructed a pumping station and filtering plant on the South bank of the Rockaway River at a point where the said Poppenhusen Street crosses it. The water

is to be conveyed to the pumping station by 12" vitrified pipe, where it is to be pumped and filtered and discharged into a reservoir of 500,000 gallons capacity located either on top of the hill adjacent to the existing reservoir or to one constructed about the same elevation on the side of a hill about 2,000 feet to the Northwest. All of which is indicated upon said map "A."

PUMPING STATION AND FILTER PLANT.

The pumping station and filter plant as designed have a pumping and filtering capacity of 1,000,000 gallons per day based on twenty-four hours operation. It is estimated under present conditions, all of the water needed by the Borough can be pumped in about eight hours.

The proposed pumping station and filtering plant are shown in detail upon map "B." There will be two pumping units constructed, each with a capacity of 500,000 gallons in twenty-four hours, against a maximum head of 260 feet. The type of pump adopted for this work is the power-driven triplex pump, and it is proposed to use oil engines or electric motors for power.

FILTER PLANT.

It is proposed that the water be filtered under pressure through pressure filters, as follows:

The water enters a basin of 25,000 gallons capacity, located directly under the pumps where it is coagulated with alum and most of its impurition removed by settling. Baffles are constructed in this basin to secure better coagulating and

settling efficiency. The silt which settles out of the water in the basin will be drawn off periodically through perforations in the bottom of the basin connected to drain pipes, and is to be discharged into the river. The coagulated and settled water is then raised by the pumps and forced through two pressure filters, each consisting of two steel tanks made of boiler plate, 8 feet in diameter and 20 feet long, in which it is filtered under pressure through about 30 inches of sand and 9 inches of gravel. The filtered water is then forced through a 10″ main to a reservoir located on the top of the hill, either on old site or now proposed site. The piping to the filters is so arranged that the sand can be cleaned periodically by backflushing with filtered water. The silt thus washed out of the sand is to be discharged into the river from which it has been derived.

A chlorine apparatus is to be installed over the coagulating basin so that the water can, whenever necessary, be sterilized with chlorine gas.

RESERVOIR

The reservoir is to be constructed above the surface of the ground on the location indicated upon map "A," at or about the point marked thereon, as an alternate location for the reservoir or the same may be constructed at a point near the existing reservoir, as indicated on said map.

The reservoir is to be constructed of reinforced concrete and to be of sufficient size to contain 500,000 gallons. A detail plan of this reservoir is shown by plate "C."

Exhibit 1a

DISTRIBUTION SYSTEM

There is existing in the Borough of Wharton a small water system, a portion of which is to be incorporated in the proposed water system as a part of the distribution system, viz:

EXISTING DISTRIBUTION MAINS

Street	Size	Length	From	To
Main St.	8″	1,917′	Morris Canal	Clarence St.
Canal St.	6″	300′	Main St.	Washington St.
Canal St.	4″	390′	Washington St.	Church St.
Poppenhusen St.	4″	622′	Main St.	Thomas St.
Washington St.	4″	50′	Canal St. (north)	

Included in this present system are all the valves, hydrants and appliances connected therewith within the public streets of said Borough. This present system is to be connected and used with the new system in supplying water to the Borough and its inhabitants. The purchase price of $5,000 for said mains and appliances has been agreed upon by the Borough and Mr. Robert F. Oram, owner of said water system.

The pipe lines in said streets, valves, etc., are in process of having acquired by the Borough of Wharton with a supply of water from 15,000 gallons to 20,000 gallons per day.

NEW CONSTRUCTION

The Borough will build and construct a new distribution system in the streets as indicated on map "A" and which distribution system is more particularly set forth in the table hereto annexed and forming a part thereof, which said table indicates the streets to be utilized and used, and the length of the pipes.

Exhibit 1a.

Streets	From	To	Size	Length
W. Blackwell	Main St.	Ford Ave.	6″	330′
Main St.	W. Blackwell	St. Mary Place	6″	1,000′
Main St.	St. Mary Pl.	Alice Lane	8″	1,160′
Main St.	Alice Lane	Union St.	10″	1,150′
Main St.	Union St.	Clarence St.	8″	100′
Main St.	Canal St.	D. L. & W. R. R.	8″	900′
Main St.	D. L. & W. R. R.	Turnpike	8″	4,700′
Ford Ave.	W. Blackwell	.....*	6″	420′
Ford Ave.	.....*	Cutler St.	8″	980′
Cutler St.	Main St.	Ford Ave.	8″	240′
Cutler St.	Ford Ave.	.....*	6″	180′
.....*	Cutler St.	(Northward)	4″	350′
St. Mary Pl.	.....*	Main St.	6″	1,860′
Alice Lane	St. Mary Pl.	Main St.	8″	1,000′
.....*	St. Mary Pl.	(Southward)	6″	1,270′
Union St.	Main St.	Frederick St.	8″	750′
Union St.	Frederick St.	Poppenhusen St.	10″	250′
.....*	Main St.	Union St.	4″	370′
Frederick St.	Thomas St.	Union St.	4″	430′
Frederick St.	Union St.	.....*	10″	530′
Richardson Bou.	.....*	Lafayette	10″	600′
Popp St., E.	Central R. R.	Union St.	10″	1,400′
Third St.	Popp St.	Grove St.	6″	300′
Church St.	Popp St.	Canal St.	8″	680′
Second St.	Popp St.	Canal St.	4″	600′
Thomas St.	Main St.	Popp St.	8″	430′
Mill St.	Robert St.	Main St.	6″	270′
Robert St.	Thomas St.	Mill St.	6″	400′
Robert St.	Mill St.	.....*	4″	200′
Canal St.	Church St.	(Southwest)	8″	400′
Furnace St.	Main St.	Mt. Hope St.	8″	530′
Washington St.	Furnace St.	Main St.	4″	570′
Orchard St.	Furnace St.	Railroad	4″	330′
Popp St.	Rockaway R.	Central R. R.	10″	2,500′
.....*	Popp St.	(Eastward)	6″	1,050′
.....*	.....*	Popp St.	4″	980′
To Reservoir			12″	2,500′
Dewey Ave.	Main St.	Mt. Hope R. R.	8″	1,350′
.....*	Dewey Ave.	(Northward)	4″	470′
Baker Hill Rd.	.....*	.....*	8″	650′
Baker Hill Rd.	.....*	Main St.	4″	550′
.....*	Baker Hill Rd.	Main St.	8″	620′
.....*	.....*	Northward	4″	600′
Turnpike	.....*	.....*	4″	700′
Turnpike	.....*	Main St.	10″	100′

*Name of street not given on map.

The total length of pipe to be used in this system, approximately amounts to 36,980 feet in size, as indicated in said Schedule hereinafter referred to.

SUMMARY OF SIZES AND LENGTHS.

Sizes	Length
4″	6,150′
6″	7,000′
8″	14,720′
10″	6,850′
12″	2,500′

Said pipe shall be of cast iron Class "B" pipe Shall be well caulked with oakum and then leaded and rammed tight.

HYDRANTS, APPLIANCES, ETC.

It is proposed to place hydrants within the Borough at such places that may be deemed necessary for the proper usage of said system with all valves and appliances necessary for the proper development and use of such system.

RIGHTS-OF-WAY.

Nearly all of said system is located within the public streets of the Borough of Wharton and no right-of-way over private property owners shall be necessary except for the establishment of the reservoir with a pipe line running thereto; and the land surrounding and adjacent to the pumping station plant and hereinbefore described and as indicated on said map.

Exhibit 1a.

While it is not proposed to include in the water system the line of pipe marked on map "A" as a "approximate location of existing supply main," but permission is hereby requested to include said line in this plan, if it shall be found necessary for the development of this system to use the same. Permission is also requested to construct the reservoir approximately at the point indicated on plot "A" marked on said map "500,000 gallons, re-inforced concrete reservoir."

These right-of-ways are to be purchased from the owners or in the absence of an agreement as to the purchase price, the same is to be obtained by condemnation.

The report of the engineer, copy of which is attached is made a part of this application, set forth in detail the need for the supply and all the reasons for choice made.

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.....

The following supplementary papers are filed with this application and made a part thereof:

1. General data regarding water-supply system, form G 48.

(required.)

2. Atlas sheet showing information required by tem, form G 48.

(see form G 46.)

Exhibit 1b.

PETER E. STRYKER,
(L. S.) Mayor, Borough of Wharton,
Address, Wharton, N. J.

Attest:
JOHN KERNICK,
Borough Clerk.

NOTE.—This application, together with all maps, plans, profiles and specifications, and all papers, information and data filed in connection therewith, will remain on file in the office of the Department of Conservation and Development.

Exhibit 1b.

Oct. 12, '18.

WHEREAS, the Council of the Borough of Wharton by a resolution duly passed did authorize a petition to be filed with the North Jersey District Water Supply Commission for permission to divert water from the Rockaway River at a point in the Borough of Wharton where the same is joined by Stephen's Brook, and

WHEREAS, since the said application was made the Borough of Wharton are in process of acquiring pipe line and property of Robert F. Oram, in the streets of the Borough of Wharton, and

Exhibit 1b.

WHEREAS, the said commission have not decided the questions presented in the said petition but desire that an application be made to the Board of Conservation and Development of the State of New Jersey so that a joint hearing may be had thereon

THEREFORE, BE IT RESOLVED, that the following petition be presented to the said Department:

STATE OF NEW JERSEY
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
Division of Geology and Waters
State House, Trenton

GENERAL DATA REGARDING WATER-SUPPLY SYSTEM

To accompany application of Borough of Wharton, Morris Co., Peter E. Stryker, Mayor.
(Name and address of applicant.)

Filed in the Department office Oct. 12, 1918.

(Proposed) Wharton, New Jersey, Water-Supply System.
(New or additional.)

(NOTE.—The following data relate only to proposed works.)

1. Source of supply—(Fill in the following *only* as they apply directly to the proposed system).

(*a*) Name of stream, lake or pond *Rockaway River.*

(*b*) Drainage area above intake (square miles) 28.00 *Square Miles.*

(*c*) Springs (number and size).

(*d*) Wells (number, size and depth).

(*e*) Emergency supply, (if any).

(*f*) Dry season yield (gallons daily) 16,000,000 *gals. min. daily flow* 8,000,000.

Exhibit 16.

2. Storage works (description and capacity) *One* 500,000 *gallon reinforced concrete circular reservoir at elevation of* 872.5′

3. Distribution (gravity or pumping) *Pumping.*

4. Pumping units (description and capacity) *Two*-500,000 *gallon pumps, gas or electrically driven.*

5. Transmission mains (size and length)
5450′-4″ 7680′-6″
14470′-8″ 6630′-10″
2500′-12″.

6. Pressures in distribution mains, from 7 lbs. to 104 lbs.

7. Purification *Mechanical Filters.*

8. Communities to be supplied *Wharton.*

9. Population to be supplied 3,000 *to* 4,000.

10. Estimated consumption (gallons daily):

(*a*) Immediate 300,000 *gallons.*

(*b*) Future (5 years) 500,000 *gallons.*

11. Estimated capacity of proposed plant (gallons daily) 500,000 *gallons daily.*

12. Probable date when capacity will be utilized 5 *years.*

13. Remarks .....

PRESENT WATER-SUPPLY SYSTEM.

Date of construction or important reconstruction.

21. Source of supply—(Fill in the following *only* as they apply directly to the present system).

(*a*) Name of stream, lake or pond *Spring Brook.*

(*b*) Drainage area above intake (square miles).

(*c*) Springs (number and size).

(*d*) Wells (number, size and depth).

(*e*) Emergency supply, if any.

(*f*) Dry season yield (gallons daily) 60,000 *gallons.*

22. Storage works (description and capacity). 45,000-*gallon concrete covered reservoir.*

23. Distribution (gravity or pumping) *Pumping.*

24. Pumping units (description and capacity) *Two*-15,000-*gallons per day—Hydraulic rams.*

25. Transmission mains (size and length) 3062'-4" 3008-6".
1917-8"*all of which excepting* 400'-4" *will be incorporated in new system.*

26. Pressures in distribution mains, from—lbs. to—lbs.

27. Purification *None.*

28. Communities supplied *One-third of Wharton.*

29. Population supplied 600.

30. Consumption (gallons daily):

(*a*) Average 20,000. Maximum 30,000. Minimum 15,000.

(*b*) Average, per capita *Thirty-five gallons—connected.*

(*c*) Industrial.

(*d*) How determined.

31. Number of service taps, Domestic 120. Industrial.

32. Fire hydrants (number and size) *ten hydrants.*

33. Estimated capacity of plant (gallons daily) 30,000.

Exhibit 1b.

34. Remarks *See data hereto attached.*

By Peter E. Stryker,
Mayor.

Attest:
John Kernick,
Clerk.

..... N. J.
..... 19 .....

Description of Plans Proposed.

SOURCE.

The source of the proposed water supply for the said Borough is the Rockaway River, where the same is joined by a stream known as Stephen's Brook. The said point of intake is indicated and marked on map "A" submitted herewith. The land necessary for the pumping station is situated on the south of said Rockaway River and west of Poppenhusen Street and north of Central Railroad. At this point there will be constructed a pumping station and filtering plant on the south bank of the Rockaway River at a point where the said Poppenhusen Street crosses it. The water is to be conveyed to the pumping station by 12" vitrified pipe, where it is to be pumped and filtered and discharged into a reservoir of 500,000 gallons capacity located either on top of the hill adjacent to the existing reservoir or to one constructed about the same elevation on the side of a hill about 2,000 feet to the Northwest. All of which is indicated upon said map "A."

PUMPING STATION AND FILTER PLANT.

The pumping station and filter plant as designed have a pumping and filtering capacity of 1,000,000 gallons per day based on twenty-four hours operation. It is estimated under present conditions, all of the water needed by the Borough can be pumped in about eight hours.

The proposed pumping station and filtering plant are shown in detail upon map "B." There will be two pumping units constructed, each with a capacity of 500,000 gallons in twenty-four hours against a maximum head of 260 feet. The type of pump adopted for this work is the power-driven triplex pump, and it is proposed to use oil engines or electric motors for power.

FILTER PLANT.

It is proposed that the water be filtered under pressure, through pressure filters, as follows:

The water enters the basin of 25,000 gallons capacity, located directly under the pumps where it is coagulated with alum and most of its impurition removed by settling. Baffles are constructed in this basin to secure better coagulating and settling efficiency. The silt which settles out of the water in the basin will be drawn off periodically through perforations in the bottom of the basin connected to drain pipes, and is to be discharged into the river. The coagulated and settled water is then raised by the pumps and forced through two pressure filters, each consisting of two steel tanks made of boiler plate, 8 feet in diameter and 20 feet long, in which it is filtered under pressure through about 30 inches of sand

and 9 inches of gravel. The filtered water is then forced through a 10″ main to a reservoir located on the top of the hill, either on old site or now proposed site. The piping to the filters is so arranged that the sand can be cleaned periodically by backflushing with filtered water. The silt thus washed out of the sand is to be discharged into the river from which it has been derived.

A chlorine apparatus is to be installed over the coagulating basin so that the water can, whenever necessary, be sterilized with chlorine gas.

RESERVOIR.

The reservoir is to be constructed above the surface of the ground on the location indicated upon map "A," at or about the point marked thereon, as an alternate location for the reservoir or the same may be constructed at a point near the existing reservoir, as indicated on said map.

The reservoir is to be constructed of reinforced concrete and to be of sufficient size to contain 500,000 gallons. A detail plan of this reservoir is shown by plate "C."

DISTRIBUTION SYSTEM.

There is existing in the Borough of Wharton a small water system, a portion of which is to be incorporated in the proposed water system as a part of the distribution; viz:

Exhibit 1b.

EXISTING DISTRIBUTION MAINS.

Street	Size	Length	From	To
Main St.	8″	1,917′	Morris Canal	Clarence St.
Canal St.	6″	300′	Main St.	Washington St.
Canal St.	4″	390′	Washington St.	Church St.
Poppenhusen St.	4″	622′	Main St.	Thomas St.
Washington St.	4″	50′	Canal St. (north)	

Included in this present system are all the valves, hydrants and appliances connected therewith within the public streets of said Borough. This present system is to be connected and used with the new system, in supplying water to the Borough and its inhabitants. The purchase price of $5,000 for said mains and appliances has been agreed upon by the Borough and Mr. Robert F. Oram, owner of said water system.

The pipe lines in said streets, valves, etc., are in process of having acquired by the Borough of Wharton with a supply of water from 15,000 gallons to 20,000 gallons per day.

NEW CONSTRUCTION.

The Borough will build and construct a new distribution system in the streets as indicated on map "A" and which distribution system is more particularly set forth in the table hereto annexed and forming a part hereof, which said table indicates the streets to be utilized and used, and the length of the pipe.

Exhibit 15.

Streets	From	To	Size	Length
W. Blackwell	Main St.	Ford Ave.	6″	330′
Main St.	W. Blackwell	St. Mary Place	6″	1,000′
Main St.	St. Mary Pl.	Alice Lane	8″	1,160′
Main St.	Alice Lane	Union St.	10″	1,150′
Main St.	Union St.	Clarence St.	8″	100′
Main St.	Canal St.	D. L. & W. R. R.	8″	900′
Main St.	D. L. & W. R. R.	Turnpike	8″	4,700′
Ford Ave.	W. Blackwell	.....*	6″	420′
Ford Ave.	.....*	Cutler St.	8″	980′
Cutler St.	Main St.	Ford Ave.	8″	240′
Cutler St.	Ford Ave.	.....*	6″	180′
.....*	Cutler St.	(Northward)	4″	350′
St. Mary Pl.	.....*	Main St.	6″	1,860′
Alice Lane	St. Mary Pl.	Main St.	8″	1,000′
.....*	St. Mary Pl.	(Southward)	6″	1,270′
Union St.	Main St.	Frederick St.	8″	750′
Union St.	Frederick St.	Poppenhusen St.	10″	250′
.....*	Main St.	Union St.	4″	370′
Frederick St.	Thomas St.	Union St.	4″	430′
Frederick St.	Union St.	.....*	10″	530′
Richardson Bou.	.....*	Lafayette	10″	600′
Popp St., E.	Central R. R.	Union St.	10″	1,400′
Third St.	Popp St.	Grove St.	6″	300′
Church St.	Popp St.	Canal St.	8″	680′
Second St.	Popp St.	Canal St.	4″	600′
Thomas St.	Main St.	Popp St.	8″	430′
Mill St.	Robert St.	Main St.	6″	270′
Robert St.	Thomas St.	Mill St.	6″	400′
Robert St.	Mill St.	.....*	4″	200′
Canal St.	Church St.	(Southwest)	8″	400′
Furnace St.	Main St.	Mt. Hope St.	8″	530′
Washington St.	Furnace St.	Main St.	4″	570′
Orchard St.	Furnace St.	Railroad	4″	330′
Popp St.	Rockaway R.	Central R. R.	10″	2,500′
.....*	Popp St.	(Eastward)	6″	1,050′
.....*	.....*	Popp St.	4″	980′
To Reservoir			12″	2,500′
Dewey Ave.	Main St.	Mt. Hope R. R.	8″	1,350′
.....*	Dewey Ave.	(Northward)	4″	470′
Baker Hill Rd.	.....*	.....*	8″	650′
Baker Hill Rd.	.....*	Main St.	4″	550′
.....*	Baker Hill Rd.	Main St.	8″	620′
.....*	.....*	Northward	4″	600′
Turnpike	.....*	.....*	4″	700′
Turnpike	.....*	Main St.	10″	100′

*Name of street not given on map.

The total length of pipe to be used in this system approximately amounts to 36,980 feet in size, as indicated in said Schedule hereinafter referred to.

SUMMARY OF SIZES AND LENGTHS.

Sizes	Lengths
4″	6,150′
6″	7,000′
8″	14,720′
10″	6,850′
12″	2,500′

Said pipe shall be of cast iron and to weigh—— pounds per foot. Shall be well caulked with oakum and then leaded and rammed tight.

HYDRANTS, APPLIANCES, ETC.

It is proposed to place hydrants within the Borough at such places that may be deemed necessary for the proper usage of said system with all valves and appliances necessary for the proper development and use of such system.

RIGHTS OF WAY.

Nearly all of said system is located within the public streets of the Borough of Wharton and no right-of-way over private property owners shall be necessary, except for the establishment of the reservoir with a pipe line running thereto, and the land surrounding and adjacent to the pumping station plant and hereinbefore described and as indicated on said map.

While it is not proposed to include in the water

system the line of pipe marked on map "A," as a "approximate location of existing supply main," but permission is hereby requested to include said line in this plan, if it shall be found necessary for the development of this system to use the same. Permission is also requested to construct the reservoir approximately at the point indicated on plot "A" marked on said map "500,000 gallons, re-inforced concrete reservoir."

These rights-of-ways are to be purchased from the owners or in the absence of an agreement as to the purchase price the same is to be obtained by condemnation.

Exhibit 2.

NOTICE OF HEARING
DEPARTMENT OF CONSERVATION AND DEVELOPMENT.

Trenton, N. J., October 21, 1918.

The Borough of Wharton, a municipal corporation of the State of New Jersey, having made application to the Board of Conservation and Development for approval of its plans to divert water from the Rockaway River at a point where the said river is joined to Stephen's Brook, for the purpose of an additional water supply for the Borough of Wharton and inhabitants thereof, and having filed said application with maps in the office of this board on the 12th day of October, 1918, notice is hereby given that a public hearing will be held in the office of the Board of Commissioners of Newark, City Hall, Newark, New

Jersey, at 11 o'clock a. m., Tuesday, November 12, 1918, at which time all persons and municipalities affected by the proposed plan may be heard for or against the approval of said application.

By order of the Board of Conservation and Development.

HENRY B. KUMMEL,
Acting Director.

Exhibit 3.

AFFIDAVITS OF PUBLICATION
— of —
NOTICE OF HEARING

State of New Jersey, }
Morris County, } ss:

E. M. COOPER, of full age, being duly sworn according to law, doth depose and say that he is concerned in the publication of the "Dover Advance," a newspaper printed and published at Dover, in the County of Morris, in this State, circulating in said county, and that the notice of which the annexed is a printed copy, has been published in said newspaper as required by law, publication being made October 24 and 28, 1918.

Signed

E. M. COOPER.

Sworn and subscribed before me this
eleventh day of November, A. D., 1918.
Peter E. Cooper,
Notary Public for New Jersey.

Exhibit 3.

State of New Jersey, } ss:
County of Morris. }

FRANCIS F. HUMMEL, of full age, being duly sworn according to law, doth depose and say that he is connected with the publication of the "Dover Index," a newspaper printed and published at Dover, in the County of Morris, in this state, and circulating in said county, and that the advertisement Notice of Hearing Water Supply, twice of which the annexed is a printed copy, has been regularly published in the said newspaper once a week during four successful calendar weeks. The first publication being made on October 24, 1918, and the last publication on the 31st day of October, 1918.

FRANCIS F. HUMMEL.

Subscribed and sworn to before me this
9th day of November, A. D., 1918.
William Hummel,
Notary Public of New Jersey.

It is hereby certified that the "printed copy" referred to in above affidavits is the printed copy of the notice attached to this return as Exhibit No. 2.

ALFRED GASKILL,
Director.

Exhibit 3.

DEPARTMENT OF CONSERVATION AND DEVELOPMENT.

(seal)

AFFIDAVIT OF POSTING AND MAILING OF NOTICE OF HEARING.

State of New Jersey, }
County of Morris. } ss:

JOHN KERNICK, of full age, being sworn on his oath deposes and says he is Clerk of the Borough of Wharton, N. J., that on October 24th, 1918, he mailed by registered mail to Mayor Hague of Jersey City, Mayor Whitman of Dover, N. J., and Mayor Roegner of Rockaway, N. J., copies of a hearing of the New Jersey Department of *Conversation* (sic) and Development to be held in Board of Commissioners' Room, City Hall, Newark, November 12th, on the application of the Borough of Wharton for permission to divert water from the Rockaway River for domestic purposes. Also that he posted three notices of said hearing in three public places in the Borough of Wharton.

JOHN KERNICK.

Sworn and subscribed before me this
12th day of November, 1918.
Thomas Coon,
(seal) *Commissioner of Deeds.*

Exhibit 5.

APPROVAL OF APPLICATION OF THE BOROUGH OF WHARTON.

To divert water from the Rockaway River to supply the Borough of Wharton, Morris County, New Jersey. Approved, January 8, 1919.

The Borough of Wharton, Morris County, a municipal corporation in the State of New Jersey, having on the twelfth day of October, 1918, filed a petition with the Board of Conservation and Development for the approval of its plans for obtaining an additional source of water supply from the Rockaway River near the junction of Stephens' Brook to the amount not exceeding 500,000 gallons daily, and at the same time having filed plans, statements, etc., as required by law;

And the Board of Conservation and Development having given due notice that it would grant a public hearing on said application, to be held in the office of the Board of Commissioners of Newark, City Hall, Newark, New Jersey, on Tuesday, November 12, 1918, at which time and place all persons or municipalities affected by the proposed plans might be heard for or against the approval of the application, which said notice bore date of October 21, 1918, and on October 24 and October 31, 1918 was published in the "Dover Index," and on October 24 and 28, 1918, was published in "The Dover Advance," both being newspapers circulated in the localities affected by the above application, and was posted in three public places in the Borough of Wharton; also copies of said notice were sent by registered mail on October 24, 1918, to the Mayors of Jersey City, Borough of Dover and Borough of Rockaway;

And the Board of Conservation and Development having at such public hearing heard all who presented themselves to be heard, and having considered the matters and things set forth in the petition and the statements and representations made at such hearing, does on this eighth day of January, 1919, hereby decide that the plans proposed by the Borough of Wharton to take water from the Rockaway River, as set forth in the plans and maps accompanying said application and filed therewith are justified by public necessity and reasonably anticipated public use, and that they will not unduly interfere with the opportunity of other persons to obtain a water supply by the taking of waters necessary for their use, and that they will not unduly injure public or private interests;

And the Board of Conservation and Development does approve the application of the Borough of Wharton as set forth in said application and accompanying maps and plans, subject to the following conditions:

1. The Borough of Wharton shall pay to the State such annual charge for the diversion of water as is now made or may hereafter be required by law. Said Borough shall keep accurate records by meter or other approved method of the amount of water used, and shall report same quarter-yearly to this Board, as provided by law.

2. The amount of water which shall be diverted from the proposed source under this approval, shall not exceed an average of 500,000 gallons per diem during any month.

3. Whenever it shall become necessary for Jersey City to provide additional storage on the

Rockaway watershed, the Borough of Wharton shall be obligated to contribute to the cost thereof such sum as this Board, after hearing the parties in interest, may then determine to be equitable, or in lieu thereof shall provide at its own expense such storage as this Board may then order.

4. It shall be established to the satisfaction of this Board after hearing the parties in interest that in consequence of the operations under this approval, Jersey City is compelled to purchase additional water to meet its needs, the Borough of Wharton, as ordered by this Board, shall reimburse the City of Jersey City for the water so purchased, the amount not to exceed the cost of the net quantity then being so diverted by the Borough of Wharton.

5. If the Borough of Wharton shall at any time abandon this source of supply, all rights and privileges conveyed by this approval shall revert to the State, it being distinctly understood and agreed that the permission herein contained to divert water is given to the Borough of Wharton alone, and shall not be assigned or set over to any corporation or person without first obtaining the consent of this Board.

6. The applicant shall in good faith begin the construction of the works necessary to utilize the proposed source of supply within one year from date of this approval and shall complete the same within three years.

7. This approval shall not become operative unless such applicant or its duly authorized representative shall have filed with this Board within ninety days from date hereof its written agree-

ment accepting the terms and conditions hereby imposed.

8. In the event that any of the conditions hereby imposed are violated and such violation shall be established to the satisfaction of this Board, this approval may thereby be abrogated, upon the passage of this Board of a resolution to that effect.

IN TESTIMONY WHEREOF, we a majority of the members of the Board of Conservation and Development do hereunto set our hands and cause the official seal of the Board to be affixed hereto and attested by its Secretary.

Dated, Trenton, New Jersey.
Jan. 8/19.

HENRY CROFUT WHITE,
PERCIVAL CHRYSTIE,
ISAAC F. RICHEY,
W. E. TUTTLE, JR.,
STEPHEN PFEIL.
Members of the Board of Conservation and Development.

Attest:
HENRY B. KUMMEL,
Secretary.

Exhibit 6.

DEPARTMENT OF CONSERVATION AND DEVELOPMENT.

Received and Filed Mar. 21, '19.

WHEREAS, the Board of Conservation and Development of the State of New Jersey, did on the Eighth day of Jan. 1919, approve the application of the Borough of Wharton to divert water from the Rockaway River to supply the Borough of Wharton, Morris County, New Jersey.

AND WHEREAS, said consent provided for the acceptance of such permission in writing:

AND WHEREAS, a resolution was passed by the Borough Council of the Borough of Wharton, authorizing the Mayor of said Borough to execute such acceptance on behalf of the said Borough of Wharton,

NOW THEREFORE, the said Borough of Wharton hereby accepts the said approval with the conditions and terms therein imposed.

IN WITNESS WHEREOF, the said Borough of Wharton has caused this acceptance to be signed by its Mayor and attested by its Clerk, and the seal of the Borough impressed hereon on the 20th day of January, 1919.

PETER E. STRYKER,
Mayor.

Attest:
JOHN KERNICK,
Clerk.

Exhibit 7.

NEW JERSEY SUPREME COURT.

MICHAEL I. FAGEN, Director of Department of Streets and Public Improvements of the City of Jersey City, *Prosecutor.*	
VS.	
The MAYOR and COMMON COUNCIL OF THE BOROUGH OF WHARTON and the DEPARTMENT OF CONSERVATION and DEVELOPMENT OF THE STATE OF NEW JERSEY and NORTH JERSEY DISTRICT WATER SUPPLY COMMISSION, *Respondents.*	On Certiorari

Return of North Jersey District Water Supply Commission to writ of Certiorari.

In compliance with the command of the writ of Certiorari issued in the above entitled proceedings, North Jersey District Water Supply Commission, one of the respondents, hereby certifies and sends all matters appearing on its records touching and concerning the grant or permit in said writ referred to.

NORTH JERSEY DISTRICT WATER SUPPLY COMMISSION

(L. S.)

LAURENT J. TONNELE,
President.

EDMUND TYLER,
Secretary.

Exhibit 7.

TO THE NORTH JERSEY DISTRICT WATER SUPPLY COMMISSION:

The petition of the Borough of Wharton respectfully shows that it is a municipality within the State of New Jersey, viz: within the County of Morris, and permission is respectfully asked by the said Borough, of your Honorable Body to approve the plans of the water system as hereinafter set forth for a supply of water to the said Borough and its inhabitants, for fire and domestic purposes.

Your petitioner shows that the source of the proposed water supply for the said Borough is the Rockaway River, where the same is joined by a stream known as Stephen's Brook. The said point of intake is indicated and marked on map "A" submitted herewith. The land necessary for the pumping station is situated on the south of said Rockaway River and west of Poppenhusen Street and north of Central Railroad. At this point there will be constructed a pumping station and filtering plant on the south bank of the Rockaway River at a point where the said Poppenhusen Street crosses it. The water is to be conveyed to the pumping station by 12" vitrified pipe, where it is to be pumped and filtered and discharged into a reservoir of 500,000 gallons capacity located either on top of the hill adjacent to the existing reservoir or to one constructed about the same elevation on the side of a hill about 2,000 feet to the northwest. All of which is indicated upon said map "A."

Exhibit 7.

PUMPING STATION AND FILTER PLANT.

The pumping station and filter plant as designed have a pumping and filtering capacity of 1,000,000 gallons per day based on twenty-four hours operation. It is estimated under present conditions, all of the water needed by the Borough can be pumped in about eight hours.

The proposed pumping station and filtering plant are shown in detail upon Map "B." There will be two pumping units constructed each with a capacity of 500,000 gallons in twenty-four hours against a maximum head of 260 feet. The type of pump adopted for this work is the power-driven triplex pump, and it is proposed to use oil engines or electric motors for power.

FILTER PLANT.

It is proposed that the water be filtered under pressure through pressure filters, as follows:

The water enters a basin of 25,000 gallons capacity, located directly under the pumps where it is coagulated with alum and most of its impurities removed by settling. Baffles are constructed in this basin to secure better coagulating and settling efficiency. The silt which settles out of the water in the basin will be drawn off periodically through perforations in the bottom of the basin connected to drain pipes, and is to be discharged into the River. The coagulated and settled water is then raised by the pumps and forced through two pressure filters, each consisting of two steel tanks made of boiler plate, 8 feet in diameter and 20 feet long, in which it is filtered under pressure through about 30 inches of

sand and 9 inches of gravel. The filtered water is then forced through a 10″ main to a reservoir located on the top of the hill either on old site or new proposed site. The piping to the filters is so arranged that the sand can be cleaned periodically by backflushing with filtered water. The silt thus washed out of the sand is to be discharged into the River from which it has been derived.

A chlorine apparatus is to be installed over the coagulating basin so that the water can, whenever necessary, be sterilized with chlorine gas.

RESERVOIR.

The reservoir is to be constructed above the surface of the ground on the location indicated upon Map "A," at or about the point marked thereon, as an alternate location for the reservoir or the same may be constructed at a point near the existing reservoir, as indicated on said map.

The reservoir is to be constructed of re-inforced concrete and to be of sufficient size to contain 500,000 gallons. A detail plan of this reservoir is shown by plate "C."

DISTRIBUTING SYSTEM.

There is existing in the Borough of Wharton a small water system, a portion of which is to be incorporated in the proposed water system as a part of the distribution system, viz:

Exhibit 7.

EXISTING DISTRIBUTION MAINS.

Street	Size	Length	From	To
Main St.	8″	1,917′	Morris Canal	Clarence St.
Canal St.	6″	300′	Main St.	Washington St.
Canal St.	4″	390′	Washington St.	Church St.
Poppenhusen St.	4″	622′	Main St.	Thomas St.
Washington St.	4″	50′	Canal St. (north)	

Included in this present system are all the valves, hydrants and appliances connected therewith within the public streets of said Borough. This present system is to be connected and used with the new system in supplying water to the Borough and its inhabitants. The purchase price of $5,000 for said mains and appliances has been agreed upon by the Borough and Mr. Robert F. Oram, owner of said water system.

NEW CONSTRUCTION.

The Borough will build and construct a new distribution system in the streets as indicated on map "A" and which distribution system is more particularly set forth in the table hereto annexed and forming a part hereof, which said table indicates the streets to be utilized and used, and the length of the pipes.

Exhibit 7.

	Streets	From	To	Size	Length
	W. Blackwell	Main St.	Ford Ave.	6″	330′
	Main St.	W. Blackwell	St. Mary Place	6″	1,000′
	Main St.	St. Mary Pl.	Alice Lane	8″	1,160′
	Main St.	Alice Lane	Union St.	10″	1,150′
	Main St.	Union St.	Clarence St.	8″	100′
	Main St.	Canal St.	D. L. & W. R. R.	8″	900′
	Main St.	D. L. & W. R. R.	Turnpike	8″	4,700′
	Ford Ave.	W. Blackwell	Walnut	6″	420′
	Ford Ave.	Walnut	Cutler St.	8″	980′
10	Cutler St.	Main St.	Ford Ave.	8″	240′
	Cutler St.	Ford Ave.	.....*	6″	180′
	Park	Cutler St.	(Northward)	4″	350′
	St. Mary Pl.	Hance St.	Main St.	6″	1,860′
	Hance Lane	St. Mary Pl.	Main St.	8″	1 000′
	Hance Lane	St. Mary Pl.	(Southward)	6″	1,270′
	Union St.	Main St.	Frederick St.	8″	750′
	Union St.	Frederick St.	Poppenhusen St.	10″	250′
	Oak Lane	Main St.	Union St.	4″	370′
	Frederick St.	Thomas St.	Union St.	4″	430′
	Frederick St.	Union St.	Division St.	10″	530′
	Richardson Bou.	Division St.	Lafayette	10″	600′
	Popp St., E.	Central R. R.	Union St.	10″	1,400′
	Third St.	Popp St.	Grove St.	6″	300′
20	Church St.	Popp St.	Canal St.	8″	680′
	Second St.	Popp St.	Canal St.	4″	600′
	Thomas St.	Main St.	Popp St.	8″	430′
	Mill St.	Robert St.	Main St.	6″	270′
	Robert St.	Thomas St.	Mill St.	6″	400′
	Robert St.	Mill St.	(Northward)	4″	200′
	Canal St.	Church St.	(Southward)	8″	400′
	Furnace St.	Main St.	Mt. Hope St.	8″	530′
	Washington St.	Furnace St.	Main St.	4″	570′
	Orchard St.	Furnace St.	Railroad	4″	330′
	Popp St.	Rockaway R.	Feedermain	10″	2,500′
	Popp St.	Popp St.	(Eastward)	6″	1,050′
	Popp St.	Feederman	Central R. R.	12″	980′
	To Reservoir			12″	2,500′
30	Dewey Ave.	Main St.	Mt. Hope R. R.	8″	1,350′
	Hoff St.	Dewey Ave.	(Northward)	4″	470′
	Baker Mill Rd.	Baker Mill Rd.	(Westward)	8″	650′
	Baker Mill Rd.	Luxemberg	Main St.	4″	550′
	Luxemberg Ave.	Baker Hill Rd.	Main St.	8″	620′
	High St.	Luxemberg	Northward	4″	600′
	Turnpike	Luxemberg	.....*	4″	700′
	Turnpike	Richard	Main St.	10″	100′

*Name of street not given on map.

Exhibit 7.

The total length of pipe to be used in this system, approximately amounts to 36,980 feet of size as indicated in said schedule hereinafter referred to.

SUMMARY OF SIZES AND LENGTHS.

Size	Length
4″	6,150′
6″	7,080′
8″	14,720′
10″	6,530′
12″	2,500′

Said pipe shall be of cast iron. Shall be well caulked with oakum and then leaded and rammed tight.

HYDRANTS, APPLIANCES, &c.

It is proposed to place hydrants within the Borough at such places that may be deemed necessary for the proper usage of said system with all valves and appliances for the proper development and use of such system.

RIGHTS-OF-WAY.

Nearly all of said system is located within the public streets of the Borough of Wharton and no right-of-way over private property owners shall be necessary, except for the establishment of the reservoir with a pipe line running thereto; and the land surrounding and adjacent to the pumping station plant and hereinbefore described and as indicated on said map.

While it is not proposed to include in the water system the line of pipe marked on map "A" as "Approximate location of existing supply main," but permission is hereby requested to include said line in this plan, if it shall be found necessary for the development of this system to use the same. Permission is also requested to construct the reservoir approximately at the point indicated on plot "A" marked on said map, "500,000 gallons, re-inforced concrete reservoir."

These rights-of-way are to be purchased from the owners or in the absence of an agreement as to the purchase price, the same is to be obtained by condemnation.

Permission is requested to divert from the Rockaway River at the point indicated on said map "A" and as hereinbefore described, water sufficient for the supply of said Borough and its inhabitants. The municipalities which may be affected by the diversion of this water at said point are the Townships of Rockaway, Randolph, Jefferson and Roxbury, Town of Dover, Borough of Rockaway, Township of Boonton, Town of Boonton, Township of Montville, and City of Jersey City, so far as your petitioners know.

BOROUGH OF WHARTON, N. J.
PETER E. STRYKER, *Mayor.*

Attest:
JOHN KERNICK, *Clerk.*

Exhibit 7.

TAKEN FROM MINUTES OF MAR. 27, 1918.

An application was received from the Borough of Wharton, N. J., for the approval of plans for a new water supply for said Borough; the water to be taken from the Rockaway River and filtered and pumped to a reservoir holding about 500,000 gallons of water. The application set forth that, among the municipalities which might be affected by the construction of said works was the City of Jersey City, and upon motion of Dr. Ramsay the Acting Secretary was directed to notify the Jersey City Board of Commissioners to ask if said City desired to be heard regarding the application of the Borough of Wharton for the proposed water supply.

TAKEN FROM MINUTES OF APR. 2nd, 1918.

Mr. David F. Barkman, of Morristown, attorney, appeared representing the Borough of Wharton in re its application for the approval of plans for a new water supply for said Borough. Mr. John Milton, City Council of Jersey City, appeared for that City and requested an adjournment to allow an investigation of the matter, since the notice of hearing only came to his attention yesterday.

TAKEN FROM MINUTES OF APRIL 16, 1918.

The adjourned hearing on the application of the Borough of Wharton, for the consent of the Commission for the diversion of water from the Rockaway River was had. Mayor Peter F. Stryker, Borough Attorney David F. Barkman, Bor-

ough Clerk John Kernick, and Alexander Potter, Consulting Engineer, appeared for the Borough of Wharton; and Assistant Corporation Counsel Edward P. Stout and Clyde Potts, Consulting Engineer, appeared for Jersey City. The Commission did not reach a conclusion on the matter but referred the question to the Consulting Engineer for a report and afterwards it was decided that an inspection of the proposed location of the water supply would be made by the Commission.

TAKEN FROM MINUTES OF MAY 3, 1918.

An inspection was made by the Commission and the Consulting Engineer, of the proposed location of the water supply for the Borough of Wharton; all the Commissioners being present, except Commissioner McKee who was detained in court.

TAKEN FROM MINUTES OF NOV. 12, 1918.

A joint hearing of the North Jersey District Water Supply Commission with the Department of Conservation and Development on the application of Wharton for the right to take 1,000,000 gallons of water per day from the Rockaway River for a water supply for said Borough, was held in the City Chambers, City Hall, on November 12th, at 11 A. M.

TAKEN FROM MINUTES OF DEC. 3, 1918.

Bill from Stenography and Reporting Company was also presented for two copies of transcript of application of the Borough of Wharton

in amount of $34. Commission discussed this bill and decided that the Borough of Wharton should pay all expenses in connection with the said application.

TAKEN FROM MINUTES OF DEC. 10, 1918.

Conditions proposed by Department of Conservation and Development re application of Borough of Wharton received and held for consideration of Counsel.

TAKEN FROM MINUTES OF DEC. 23, 1918.

President directed to take up with Jersey City authorities re matter of the Wharton application and report next meeting.

TAKEN FROM MINUTES OF DEC. 30, 1918.

Consulting Engineer directed to write to Department of Conservation and Development re Wharton application.

Representatives of Jersey City failed to appear before this Commission. It was suggested that matter be put over for a month.

TAKEN FROM MINUTES OF JAN. 13, 1919.

Letter from Director Kummel of the Department of Conservation and Development notifying Commission that Wharton application for the right to divert water from the Rockaway River had been granted by said Department, enclosing a copy of the grant, was read and Acting Secretary directed to notify Jersey City authorities

the Commission would hear anything further that Jersey City desired to present regarding the Wharton application, now pending before this Commission, on January 27th, 1919.

TAKEN FROM MINUTES OF JAN. 20, 1919.

Mr. John Milton, City Counsel, and Mr. Clyde Potts, Consulting Engineer, for Jersey City, appeared before the Commission in reference to Wharton application. Asked permission to submit brief stating their case in full. Commission requested same to be filed before next meeting, January 27th.

TAKEN FROM MINUTES OF JAN. 27, 1919.

Motion made by Commissioner McKee and seconded by Commissioner Hinck that a brief in re Wharton application filed by Mr. John Milton, Counsel of Jersey City, be referred to counsel for investigation. Motion carried.

TAKEN FROM MINUTES OF FEB. 10, 1919.

Wharton application was generally discussed by Board with Engineer Sherrerd and Counsel Sommer. Motion made by Commissioner Hinck and seconded by Commissioner McKee and carried that Engineer and Counsel go over testimony given at joint hearing of State Conservation Board and North Jersey District Water Supply Commission and report back their findings relating to Wharton application to the Commission at their meeting of February 17th.

Exhibit 7

TAKEN FROM MINUTES OF FEB. 17, 1919.

Motion made by Commissioner McKee, seconded by Commissioner Hinck and carried, that the Wharton matter having been referred to Counsel and Engineer, who were to report back to Commission their findings, be carried over to next meeting (February 24th), owing to unavoidable absence of Engineer.

TAKEN FROM MINUTES OF FEB. 24, 1919.

Motion made by Commissioner Ramsay and seconded by Commissioner Hinck and carried, that findings of Counsel and Engineer in re Wharton matter be carried over to next meeting (March 3rd), owing to illness of Engineer, who was absent.

TAKEN FROM MINUTES OF MARCH 3, 1919.

Motion made by Commissioner Ramsay, seconded by Commissioner Hinck and carried, to take up the Wharton matter at the next meeting, March 10th, as special business, and to notify Mr. Potter to appear before the Board at this meeting with further information which the Commission desires before they give a final decision. Following is the letter to Mr. Potter indicating the information desired:

Exhibit 7

March 5th, 1919.

Alexander Potter, Esq.,
New York City,
Dear Mr. Potter:

The Commission discussed the Wharton application at its meeting on the 3rd inst., and I was directed to request you to furnish an estimate of the cost of the proposed reservoir that you suggested Wharton could possibly develop for itself. (This I understand was covered by your report, but the Commission does not seem to have in its files a copy of your report.) The Commission would also like an estimate of the cost for making the part of the main River available for storage by the construction of a dam as was discussed with the representatives of Wharton when the Commissioners were on the ground.

The matter has been set down for consideration by the Commission at its next meeting on the 10th inst.

Very truly yours,
(Signed) MORRIS R. SHERRERD,
Consulting Engineer.

TAKEN FROM MINUTES OF MAR. 10, 1919.

Mr. Potter appeared before the Board in re the Wharton matter. On motion made by Commissioner McKee and seconded by Commissioner Hinck and carried, additional information and map was referred to Counsel for investigation.

TAKEN FROM MINUTES OF MAR. 17, 1919.

Motion made by Commissioner McKee, seconded by Commissioner Hinck and carried, that

report of Counsel on Wharton situation be deferred to next meeting.

TAKEN FROM MINUTES OF MAR. 24, 1919.

On recommendation of Counsel a motion was made by Commissioner Hinck, seconded by Commissioner Ramsay and carried, that findings of Counsel on Wharton situation be laid over to next meeting.

TAKEN FROM MINUTES OF APRIL 7, 1919.

The President reported that the City of Jersey City had taken legal proceedings to review the action of the State Conservation Board on Wharton application.

TAKEN FROM MINUTES OF APRIL 14, 1919.

Counsel reported that on basis of President's report that Jersey City had directed taking of steps for judicial review of the grant made by State Conservation Commission on application of Wharton, further action on application of Wharton to this Commission be deferred. Upon motion of Commissioner Hinck, seconded by Commissioner Ramsay and carried, it was so ordered.

TAKEN FROM MINUTES OF APRIL 21, 1919.

Counsel reports that a writ of Certiorari has been allowed making the N. J. D. W. S. C. a party to the proceeding in review of action on Wharton application.

Joint hearing before the Board of Conservation and Development and the North Jersey District Water Supply Commission re Application of the Borough of Wharton for development of a water supply from the Rockaway River.

Tuesday, November 12th, 1918.
Newark, New Jersey.

PRESENT:

MR. WHITE, *President,*
MR. TUTTLE,
MR. PFEIL,
MR. NORTHUP,
DR. KUMMEL,
MR. CRITCHLOW,
MR. TONNELE,
MR. MCKEE,
DR. RAMSEY,
MR. SHERRERD.

APPEARANCES:

HON. PETER STRYKER, *Mayor,*
JOHN KERNICK, *Clerk,*
ALEXANDER POTTER, *Consulting Engineer for the Borough of Wharton,*
HON. THOMAS J. BROGAN, JR., *for Jersey City.*

DR. KUMMEL: The Board of Wharton has submitted an application to the Board of Conservation and Development

for approval of these plans to take a supply of water from a point in the Rockaway Water Shed indicated by a map which is before the Board, the amount, I believe, being 500,000 gallons per day, taking it directly from the stream.

THE PRESIDENT: What is the name of the branch?

DR. KUMMEL: The Rockaway River.

(Examined map).

THE PRESIDENT: I would like to ask that you make your openings and closings as brief as possible so that we may get the actual evidence in the record and get through as soon as we can. I only say that because there has been a tendency in these hearings to make them long, very naturally, because everyone is interested. You will confer a favor on us by being as brief as you can and reasonably state your case.

MR. POTTER: Mr. Chairman and Gentlemen: Two years ago the Borough of Wharton determined upon an investigation for a water supply. The problem was to get a water supply that could be added to from time to time and be as economical in first cost as possible.

I will briefly outline the report which accompanies this. There are several available sources of supply, but the most logical supply is the Rockaway River because ultimately the upper stretches of the Rockaway River will be diverged for the development of all that territory and also

an extension of Jersey City's water supply. I took it that any water from that water shed, whether it be from the surface or from wells, shallow wells or deep wells, all came within the provision of the Act, which made us get permission to take that water, or in other words, the mere fact of adopting a subterfuge of taking water from shallow wells made us amendable to whatever law there was to the drawing of water, as we took water direct from the river.

The plan that was adopted was to take water directly from the Rockaway River because at the present time the amount we would take is so insignificant compared to the amount of Jersey City's ultimate needs that it didn't seem to be the part of wisdom to develop a water supply and build a storage reservoir whereby we could, during the time of great rainfall, store enough water to last us over the dry season, because Jersey City has already had in contemplation the development of this water shed site for a large impounding reservoir for which the Borough of Wharton stands ready to pay its share of whatever that development might be. They are willing to do that to develop this. The development would cost at the present time about ten times what it would cost to take part in and to pay our proportionate share of whatever water we would need when the larger development goes through. The problem was to spend as little money in development as possible and put most

of the money in the part that would be most effective. Therefore, we take water from the stream to the extent that we need it for the present.

The report shows that there are available some other sources of water supply that could be developed at a very much larger cost. The report also shows that we can get water by building infilteration galleries along the Morris Canal. That will cost us more, but in order to do that we will be interfering with somebody else's rights, and it has seemed to be the simplest and most logical solution for the development of a water supply, and the amount that we require is so very small compared with what the developments of Jersey City would be that it seemed to me to be the wisest and best plan to pursue.

If there should be any question about taking water from the river direct we can construct, and would be willing to take water from infilteration galleries or a well along the river and are satisfied that we can get water in that way.

DR. KUMMEL: What water do you take from the Rockaway now?

MR. POTTER: We have the Oram plant which takes it from springs which discharge into the Rockaway.

DR. KUMMEL: Your application is to take direct from the Rockaway?

MR. POTTER: To take direct from the Rockaway.

DR. KUMMEL: How much do you expect to take from the Rockaway?

MR. POTTER: We expect not to take more than 500,000 gallons a day. We can say that advisedly because while the water supply there is woefully inadequate there is a pipe line covering the business part of the district, and many of the houses in the town are already served with water from this spring, and the capacity of that spring is only about 50,000 gallons a day maximum, and we are taking less than that now. Of course, the usual rule is to allow 100 gallons per capita as a water supply, but in South Orange the water supply under metered service is very much less than that, and in many cases throughout the United States it is very much less than that.

DR. KUMMEL: Is your system metered?

MR. POTTER: It will be metered, yes, sir. I always recommend the adoption of metered service.

THE PRESIDENT: For the sake of expediting the proceeding, would you prefer rather than to prove all the facts by oral evidence to put a witness on and verify the report? There are certain requirements of the statute which must be met. If the facts are all contained in the report, the North Jersey Commission agrees that it will be equally satisfactory, as do we, assuming that you are satisfied with that evidence, for you to put a witness on and let him state that the facts are true.

MR. POTTER: I shall be very glad to do that. The report was written by me.

ALEXANDER POTTER, being duly sworn testified as follows:

THE PRESIDENT: You offer in evidence the report already filed by you?

THE WITNESS: Yes, sir.

(Report above referred to received in evidence and marked Exhibit P-A, 11-12-18.)

THE PRESIDENT: Did you prepare this report yourself?

THE WITNESS: I did, sir.

THE PRESIDENT: And you know all of the facts that are contained in it?

THE WITNESS: Yes, sir.

THE PRESIDENT: And each of the statements therein made is true?

THE WITNESS: To the best of my knowledge and belief.

I would like to add that there is no statement in the report that we would be willing to change the source of supply, that is to say, instead of taking it directly from the river we have no objection to putting a receiving well down there. We know we will get plenty of water there from that source. It will come from the river, but won't be directly from the river.

DR. KUMMEL: May I ask one or two questions from Mr. Potter?

THE PRESIDENT: Yes.

DR. KUMMEL: Is there anything in your report which shows that the plans proposed are justified by public necessity or reasonably anticipated public use?

THE WITNESS: I presume that is answered by the fact that the people voted upon it favorably.

I think I am qualified to speak in regard to a very important part of it, and that is fire protection. The sizes of the mains,—the volume of water is absolutely inadequate to furnish any reasonable fire protection in the city, the sizes of the mains are so small—there is no reservoir capacity above 60,000 gallons I think—and the main leading from the reservoir to the town is such that it cannot afford any fire protection in the ordinary sense of the term, so the city is without fire protection. They have a few hydrants, but in case of a serious conflagration they would be without value.

MR. TONNELE: Is the present supply adequate or inadequate, not whether you can get the water where it is wanted, but is the present supply adequate or inadequate?

THE WITNESS: The supply is limited. The supply is from two springs at the present time. I think perhaps the Mayor had better make this statement because he is connected with the Iron Company, and I know things up there that he may think are confidential.

THE PRESIDENT: May I make this suggestion? It seems to me the orderly presentation of your case, so as to save yourself the trouble of any future hearing, would be to show the population of

Wharton and the amount of water that that population needs per capita.

THE WITNESS: That is all covered in my report.

THE PRESIDENT: Have you covered in the report also the amount that you have furnished now?

THE WITNESS: Yes, sir, that is all covered.

MR. TONNELE: Isn't it a fact that you can get a supply other than from the Rockaway River up there?

THE WITNESS: No, sir, not without going outside of our water shed altogether.

MR. TONNELE: There is a proposition that you could handle it only your objection is that it requires much more money than this.

THE WITNESS: I don't know of any other that wouldn't have more serious objections than this. Going out of the water shed we would go into the water rights of the Potter Mills at Kenville. They have taken up a lot of water there. I know of no other system. Stephen's Brook has a small drainage area of about 1.4 square miles. It has a limited supply, but that is only available, as stated in the report, by the moving of a very important line of the Jersey Central track. I took that up with the authorities and they are opposed to changing it, so it would be a serious proposition and cost very much more.

THE PRESIDENT: Which is the Jersey Central?

(Examined map)

THE WITNESS: What I had in mind was this. The development of the Wharton mines in their mining work—at any minute their mining work may destroy the fountain head of this spring we have now. They will give us no guarantee. Their mining operations are such that they may destroy that spring at any time.

MR. McKEE: How near are they working to it?

THE WITNESS: I can't tell you. They have gone this far, they have agreed to sell and we have bought this (indicating). The question arose with some other commission as to whether we had bought out the existing plant, which is always a desirable thing, and that has been purchased by the Wharton Steel Company so as to protect us. They have agreed to give us water until we get it from somewhere if that should go out. That is how serious the proposition is.

THE PRESIDENT: At the present time, as I understand it, the supply was not adequate even before the Wharton people had taken it over.

THE WITNESS: No.

THE PRESIDENT: How far does it fall short?

THE WITNESS: The normal capacity is 100 gallons per capita for 5,000 people so it should be about half a million gallons, and we have a supply from that spring of about 40,000 gallons.

MR. McKEE: That appears in the report, does it not?

THE WITNESS: Yes, sir.

MR. BROGAN: I don't know what rules of procedure you follow before this Commission. I didn't want to interrupt the gentleman but of course you must realize that we cannot cross-examine on that report because we have not had a copy of it. We don't know anything that is in it. The report, as far as we are concerned, is a sealed book. We have not had copies of it at all.

THE PRESIDENT: I understand it would give you some difficulty. At the same time, would it give you more difficulty than if Mr. Potter simply read into evidence the report?

MR. BROGAN: One is about as bad as the other. As far as I am concerned, I would have to have some opportunity to study out the report or to give some thought with Mr. Potts as to what he might testify to.

THE PRESIDENT: Of course you wouldn't have any opportunity if he simply read the report in evidence.

MR. BROGAN: Mr. Potts and I could insist that he go slowly and Mr. Potts could take notes.

The situation is this, here is our position. I have it in writing but I will state it. As I look upon this whole proposition, I think that the Boards having jurisdiction over the water situation in this

State seek to do the thing that is equitable. We will show that for 224 days last year by actual count, according to the record we keep, Jersey City took all the flow of that river and in addition had to draw upon its reserve. We are also ready to show that Wharton was accommodated from this river.

It seems to me that this Board will not and cannot assist one municipality to the detriment and harm of the other. Jersey City has as much property right as a municipality can have in a property of this kind. It has a right to that flow and to what has been taken, and it has been demonstrated and will be that Jersey City's position is very serious if this application is granted.

The Engineer for Wharton speaks about 500,000 gallons per day whereas their plans indicate and say that they are permitted to pump a million gallons per day, and their application is for that.

DR. KUMMEL: May I correct you? Their application is for 500,000 gallons per day.

THE PRESIDENT: The immediate question is whether you want Mr. Potter to testify orally. I don't think the Board would feel disposed to decline that privilege. Do you want to cross-examine him?

MR. BROGAN: I assumed this gentleman here has gone very thoroughly into every statement he has put in his report, but almost every statement he has made

here has been a conclusion of law and not a statement of facts. He says the supply is inadequate. We cannot swallow that whole unless we know how many people there are, what their needs are, what their consumption in the past has been and all the facts about that situation.

MR. McKEE: I understand that is covered in his report.

THE PRESIDENT: I think you will find your case more satisfactory if you testify orally, Mr. Potter. Evidently there is going to be some strenuous objection here and Jersey City may Certiorari—they generally do take that course with this unfortunate Board—I think you will find your record better and probably the case better sustained if you will testify orally.

MR. BROGAN: I will stipulate on the record that if the Board desires the report may go in, as it has been put in if I get an opportunity to study it and then to cross-examine the witness intelligently.

THE PRESIDENT: I don't think the Board is disposed to sit again if it can be avoided. If we can clean it up today, I think we would prefer to do so because we have an enormous amount of work on our shoulders. I think, Mr. Potter, you had better testify orally to your facts and then Mr. Brogan will have his opportunity to cross-examine you, and that will be fairer all around.

Will your testimony be your whole case, Mr. Potter?

MR. POTTER: That I don't know. There is no need of my reading this in detail, is there?

THE PRESIDENT: I think you had better testify to whatever facts you want in evidence, whether it contains the whole or any part of that.

MR. POTTER: The existing system consists of two hydraulic rams and the water is forced from this small stream to a reservoir having a capacity of 45,000 gallons.

MR. BROGAN: At this time, without wanting to be captious at all, there is nothing in the record as to what "this small stream" means. I don't know what it means.

MR. POTTER: All right. The existing stream, called Spring Brook, is the one referred to. These rams that are supplying the city with water have a capacity each of 15,000 gallons a day, so that that is a measure of the amount of water being used. Thirty thousand gallons a day is a maximum amount of water being used. From observations made it would seem as if the average amount used throughout the year does not exceed 15,000 gallons, which is all that can be gotten up, or in other words, sufficient for 300 people. The immediate need of Wharton is a supply of half a million gallons for a population of five to six thousand people. The popula-

tion of Wharton is somewhere about 3,500 to 4,000. It is difficult to determine what the population is. There is probably a thousand more floating population there. The maximum population there is about 4,500 today.

The sources from which Wharton might secure a supply are stated to be Green Pond Brook, Stephen's Brook, the Morris Canal and the Rockaway River. There has been very little information as to the underground water development in that part of the country. The surface is a glacial drift and is very highly water bearing, so that not only can we get a supply from the surface water but, as I stated, from these infilteration galleries a supply can be taken, but the source of supply in all cases, in my judgment, is the same. There empties into the Rockaway River a drainage tunnel which has a flow varying from time to time at different parts of the year. There has been a suggestion that that could be used, but that is a mine drain and it contains a very high iron content, and the taking of that supply has been taken up by the Wharton Mill people and they oppose the taking of that.

MR. BROGAN: I object to that as mere hearsay.

THE PRESIDENT: The Board has not been accustomed in its hearings to confine witnesses very closely to the regular rules of evidence for the reason that we feel we can probably throw out

anything that is hearsay, and some of these points are very difficult to prove without very prolonged hearings.

MR. BROGAN: This occurred to me in listening to this witness testifying. He said before that the sources of supply that they now have, speaking of certain wells, was in imminent danger of destruction from the mines. That is very well and everybody knows if that situation does prevail that something can be or should be done to remedy it, and if it should unfortunately happen in the future at any time that the law provides for compensation for that.

THE PRESIDENT: Isn't that a matter of argument?

MR. BROGAN: Why should the bald statement go in and nothing said in contradiction of it?

THE PRESIDENT: If we were sitting as a court it should not, but sitting as business men we hope we know enough to throw it out in any consideration of it if it seems unworthy. I agree with you that personally I don't regard the point as very strong.

MR. POTTER: We examined the possibility of taking water from infilteration galleries constructed along the Morris Canal. A personal investigation of the leakage from the Morris Canal indicates a possible supply of about a million and a half gallons per mile of run of the canal. The objection to taking this water from

infilteration galleries would be, first, the large expense and, second, the possibility of interfering with the rights of other people because we would have to go outside of the water shed of this Rockaway River to get it, and we would be just up against the same problem of interference with somebody else's supply as we would be against any rights Jersey City might have.

MR. PFEIL: What stream did you say had so much mineral in it?

MR. POTTER: A drain. There has been a tunnel coming out into the Rockaway River in Wharton, and just what the source of that supply is is very difficult to determine but there is a goodly flow there but it has an iron content. The Wharton Steel owns that and they don't want the City to use it because they are using it themselves, and, furthermore, the character of the water is such that it would be expensive to purify it, to take the iron out of it.

The report takes up the question of a driven well supply. A driven well supply is possible and would cost perhaps more than the supply we have under consideration, but there again the water taken from that would be from the same source and subject, in my judgment, to the same objections as taking the water directly from the river.

MR. PFEIL: By the same source you mean the Rockaway River?

MR. POTTER: The Rockaway River. Taking up the surface water supply there is a supply available at Green Brook but the objection to that is that the Picatinny Arsenal is on it and it is highly charged with acid waste there. An examination of the water indicates that it is not a fit water for consumption at the present time. The United States Government has that. The State Board of Health has been endeavoring to compel the removal of those acid wastes but at the present time it has met with little success.

I refer to the Stephen's Brook supply and gave the reasons why the supply is not recommended.

MR. BROGAN: What was that, sir?

MR. POTTER: First, the relatively small quantity in that flow, requiring an immense storage of water to tide us over the dry season, and the inability of getting that storage without interfering with the main stem of the railroad going up there and reconstructing it. It would require the shifting of about 5,100 feet of track of the late branch of the Central Railroad to a point above the reservoir level.

We come to the question of the supply from the Rockaway River. A dam can be constructed in the Rockaway River to impound all the water that we need, but that dam would be submerged if and when Jersey City would develop this water shed for their own usage. The cost to us of building that dam now and the reservoir would be

very many times greater than our proportionate share of the cost of everything that Jersey City might do in the way of a permanent supply if we paid for all the water we used. Until that supply is developed the water that we take from the Rockaway River we return to the Rockaway River because no water is taken out of the city. The water is taken, used in the spigots and returned to the ground and goes on its march to the Rockaway River after it has been used. The only loss in that is a small loss from evaporation. It does not go away from the site of the town so that in reality while we take out of the river half a million gallons we put practically that much back. Take in the Long Island cities, Freeport, all those cities take their water supply right from the immediate vicinity of the city and pass it down into the ground again and it goes to feed the water supply sources after it passes down through the ground.

MR. PFEIL: Has Wharton got a system of sewerage disposal?

MR. POTTER: No, sir, it has no sewerage at all.

Is it necessary to describe the piping system, the details, would you like to have on the record the length of mains in the system?

THE PRESIDENT: I think it might be well enough to put that in.

MR. POTTER: It is proposed to build a reservoir on the top of the hill, the exist-

ing reservoir being 45,000 gallons. We propose to build one of half a million gallons. It would be a circular reinforced concrete reservoir with a sufficient pipe to supply adequate fire protection to the town. By adequate fire protection I mean that there will be a pressure varying from 70 pounds to about 104 pounds over different parts of the town. The distribution system, as stated in the application, the present distribution system consists of 3,000 feet of 4-inch pipe, 300 feet of 6-inch pipe and 19,017 feet of 8-inch pipe. That is all that is comprised in the existing system. The proposed system involves the construction of 5,450 feet of 4-inch, 7,680 feet of 6-inch, 14,470 feet of 8-inch, 6,630 feet of 10-inch, 2,500 feet of 12-inch, together with 41 hydrants and 44 valves, amounting to 36,730 feet to carry out the ultimate development shown on the plans that is proposed for immediate construction. To serve all the streets that have been laid out in the city will require the total construction of 83,000 feet of pipe varying in size from 4 to 12 inches. It is proposed by taking the water from the river to construct a filter plant so that the water will not be delivered to the citizens in its raw state but it will be filtered. As stated before, the present plant and system of piping had been purchased by the Wharton Steel Company on behalf of the city so that there is no question as to the right of the city to build in a town where there is already

an existing plant. That comes up before the Public Service Commission, I think. That has been settled. That, briefly, is the outline of the salient features of the report.

Cross-Examination by Mr. Brogan:

Q. Didn't you file a plan, Mr. Potter, for a storage reservoir to take care of that situation that you have outlined? A. There are all the plans there (indicating).

Q. I didn't ask you that. I asked you if you did file the plan with this Commission? A. The plan that was filed showed all the sources of supply and also the possibility of a storage on the Rockaway River.

Q. Did the plan as filed show a storage reservoir project? A. Yes, sir.

Q. Wouldn't that building or construction of the storage reservoir take care of this need that you say now exists? A. Yes, sir.

Q. Without interfering with the municipality of Jersey City? A. Yes, sir.

Q. Why don't you do it? A. Because it isn't necessary, because we don't interfere with any of the needs of Jersey City now with the plan we propose.

Q. Are you familiar with the amount of water required by Jersey City per day? A. No.

Q. How do you know you wouldn't interfere with Jersey City? A. Simply because the amount of water we use is returned to the stream. That would go to building up the Boonton supply and up to the present time the Boonton reservoir has not been drawn down to nearly its full capacity.

Q. How do you come to be in a position to

testify to that, Mr. Potter? A. Well I have, heard—

MR. BROGAN: I ask that that last reply be striken out.

THE PRESIDENT: We are accustomed to take everything and consider whatever is material.

MR. BROGAN: If the gentleman testifies to something which he is in no position to testify to by saying he heard such a statement made, I would hate to have the rights of Jersey City's judgment on such testimony.

THE PRESIDENT: Just ask him a little more definitely. Do you know anything about it yourself or is it mere hearsay about the Boonton reservoir not being drawn down.

THE WITNESS: At the last hearing that we had before the Board the statement was made there as to the inadequacy of the pipe line but no statement was made to the draft upon the reservoir.

MR. BROGAN: Note my objection to that reply.

Q. Your plans and recommendations went in long before the hearing that you referred to? A. Yes, sir.

Q. So that when your plans and recommendations went in, you didn't have any first-hand knowledge of this situation that you now speak of? A. Yes, we did, because that has been a matter of common knowledge, it has been spoken about, the inadequacy of Jersey City's supply has

been a matter of common knowledge for many years and it has been spoken of in the newspapers, in technical magazines and by engineers in general, so we get that knowledge and as engineers we assume it is true.

Q. Was there reason for assuming that you would do no harm to Jersey City's needs or that you would not curtail her requirements; is the fact that all the water you draw out of the river per day you return. A. A large part of it, yes.

Q. You testified that all of it went back except that part which evaporated? A. Yes.

Q. What per cent. would that be, in your judgment? A. I presume we should count on 90 per cent. returning.

Q. Are you familiar with the geological situation of that country up there? A. In a general way, yes.

Q. Have you ever made borings yourself? A. No.

Q. Have you ever made any survey that would tend to analyze the natural condition of that country from the top strata down? A. Oh, yes, we have the result.

Q. I am asking what you did. A. No, I never did myself but we have access to the result.

Q. How do you know just how that land tends to run after you get down one strata? A. There isn't any question about that. The ground runs towards the Rockaway River at any depth that would be affected by the sewerage flow.

Q. Do you know that that is the fact from your personal experiment? A. Well it is impossible—

Q. I asked you if that is the fact? A. That is my best judgment from my own observation, yes.

Q. Will you answer the last question yes or no? A. There are some questions that are not answerable by yes or no and this is one of them because to answer that way you would have to know the geological formation of every foot of the ground. It is a question of general knowledge of the situation there. My own judgment is it practically all goes to the Rockaway River.

Q. Would the water be the same as to qualify on its return as when it left the river? A. Yes, it would.

Q. How about sewerage? A. I don't know of any better filter than the water going into the ground and passing through it for a distance from 50 to 1,000 to 2,000 feet. It is very much purer than the surface water that is going in there all the time from the streets and hillsides, very much purer.

Q. Have you a sewer system in Wharton? A. There is no sewer system in Wharton.

Q. Isn't it a fact that at Dover the cesspools overflow and the water finds its way back to the Rockaway River by flowing on top of the ground? A. In certain parts of Dover that is true because certain parts of Dover lie so close to the surface of the Rockaway River that the water has no chance of getting out.

Q. What makes you conclude that what is true of Dover wouldn't be true of Wharton? A. Because Wharton does not lie like Dover. Wharton does not lie as flat as Dover.

Q. Wouldn't there be a greater tendency in a country that slopes to the river for the cesspools to overflow and have it run down hill to the river? A. No, sir.

Q. Why not? A. Because the trouble at Dover is there is no cesspool capacity there. The cesspools are filled with river water backing up. On higher ground the cesspools are free and there is a chance to drain through the ground. There is no chance of the cesspools in Dover to leach.

Q. Have you ever personally made observations of the cesspools in Wharton? A. In Wharton?

Q. Yes. A. No.

Q. Then you don't know as a fact that these cesspools have not overflowed and the water has not run on top of the ground down to the river? A. Yes, I do know that.

Q. What is the source of your information? A. Personal observation of the ground. I have never seen any such thing and I have traveled over every street in Wharton.

Q. How many times have you gone over this ground? A. About a dozen or two dozen times.

Q. During what period? A. All parts of the year for the last two years.

Q. You have testified that this situation could be met, that is, your requirements could be met either by the building of the storage reservoir or by the building of the other reservoir that you spoke about which would mean the shifting of the tracks of the Central Railroad? A. Yes, sir.

Q. Then I take it, Mr. Potter, that your sole objection is rather a financial one than an engineering one? A. No, sir.

Q. What is your objection? A. The objection is in the first place that while I have shown that storage reservoir on the Rockaway River it is really not a practical thing because the lower

part of that would give us such a shallow depth of water that the water would not be good, and the design shown there is a theoretic design rather than a practical one. Anyone knows that large bodies of shallow water do not improve the water especially. There is on that bottom,—there is more or less of a muck bottom over part of it. The storing of water over that large area there would deteriorate the water very seriously.

Q. Is this Stephen's Brook or the Rockaway River? A. The Rockaway River.

Q. How about Stephen's Brook? A. It hasn't the supply there that is sufficiently adequate for all possible future needs, and it would be involved in a tremendous amount of money for first cost and with a limited supply.

Q. Are you willing to stand on that reply, that Stephen's Brook would not be adequate to take care of all future possible needs? A. Yes, I would.

Q. Why did you put that plan into the general plan of building this storage reservoir? Doesn't it clutter up the general plan instead of making it clear? A. No, no.

Q. Why didn't you put—— A. The city has a right to develop one supply with the known fact

that it won't be ultimately adequate and then go to some other place and develop it. It may be possible to develop all your present requirements very economically and then go somewhere else when you reach the end of that. That is good engineering.

Q. What do you estimate the maximum development of Stephen's Brook to amount to? A. That is very difficult to say.

Q. You must know because you have testified it is inadequate. A. Yes. You might be able to get, I think I have stated what that is. I will read from the report on that, perhaps that is more clear. "The water of Stephen's Brook is of a quality admirably suited for a potable supply and would unqualifiedly be recommended by us were it not for the fact that the yield is limited. The water shed of Stephen's Brook above a point or place suitable for an intake is only 1.4 square miles in extent. We estimate the average yearly runoff for this area including flood water to be 600 million gallons. During periods of extreme drought the flow in Stephen's Brook may fall as low as 250,000 gallons per day." It fell lower than that during the last year.

Q. Does this report contain facts based upon your own personal experimentation? A. Oh, yes. It is experimentation as to the falling back of that stream. Two years' records are of little value. The records that you want should cover a period of thirty or forty years to be of any value.

Q. This is not such a record? A. No.

Q. Therefore, for all you know, assuming that is so—— A. It may be very much less.

Q. Or very much greater? A. No.

Q. Why not? A. Because we have observations on maximum yields from other supplies in other storage reservoirs.

Q. You quote 250,000 gallons as your low flow, and that is the maximum, isn't it, without storage? A. Yes.

Q. What could you get striking a mean balance if you can from your figures with storage? A. A yield of 1,150,000.

Q. And that is taking into consideration the storage that you show on this plan? A. Yes.

Q. And then you are only applying now for half a million gallons? A. That is so.

Q. It would look as if this situation you have outlined would make everybody happy and give you what you want. A. No, because as I say, it requires the moving of that track, which is more or less of an impossible proposition.

Q. Impossible? A. Yes.

Q. I would like if the Board please to ask the gentleman this one question and get an answer of yes or no. I would like to know if you rest your testimony as to the impossibility or impracticability of getting relief for Wharton on the ground that this plan which you have just outlined, taking into consideration Stephen's Brook, has a capacity which is too low, or whether your objection is a financial one? A. You can't make a decision on any one point, you have to take the problem as a whole and size up all the factors and then reach your conclusion, giving due weight to every factor.

Q. Didn't you say a minute ago that the yield of Stephen's Brook was not sufficient because it was not enough? A. I read that.

Q. Yes? A. It is limited.

Q. Yes? A. Yes.

Q. Didn't you testify by striking a mean balance with storage that you could get a 1,250 thousand gallon flow today? A. On the assumption that you can move a mile of railroad track.

Q. You are not here with testimony to prove that that is impracticable are you? A. To prove it is impracticable?

Q. Yes. A. You mean——

Q. Maybe the road is glad to move it, we don't know. A. If you will go up there you will find it isn't because it is on the maximum grade now. It is practically impossible to move it without increasing the present maximum grade.

Q. That is just a matter of cost. A. No, it isn't. If you go to a railroad that has now a present maximum grade on it, you cannot get them for love or money to let you change that track.

THE PRESIDENT: By maximum grade you mean, I suppose, maximum practicable grade?

THE WITNESS: Yes, sir.

THE PRESIDENT: Naturally they would not change it, if that is the case, if they could help it.

MR. BROGAN: That is all, thank you, Mr. Potter.

THE PRESIDENT: Is that our case?

MR. POTTER: I didn't know I was to present the case, but I will confer with Mr. Stryker a moment and see whether he has anything.

(After conferring with Mr. Stryker)

We don't know of any other statement to make unless the Board would like to ask some questions.

THE PRESIDENT: I don't think of anything at the present moment.

CLYDE POTTS, a witness being duly sworn, testified as follows:

Direct Examination by Mr. Brogan:

Q. You are an engineer? A. I am, yes, sir.

MR. BROGAN: I take it that Mr. Potts' qualifications are admitted. They are known to the Board, are they not?

THE PRESIDENT: Yes.

Q. An application has been made by the City of Wharton to take half a million gallons per day from the Rockaway River at a point above Wharton. Will you state what your opinion of that would be as to taking away from Jersey City what it requires at the present time? A. Taking off of half a million gallons from the dry river flow of the Rockaway River at Wharton as proposed in this application would be substantially reducing the flow of water to Jersey City by one-half million gallons.

MR. McKEE: Do you base that on the fact that from your position there would be no return to the river?

THE WITNESS: Yes, sir, or very little return.

Q. What effect would that have on Jersey City ultimately? A. It would put Jersey City to the expense of providing some way to make up for this shortage of one-half millions which this would entail.

Q. Have you studied this situation, Mr. Potts? A. I have, yes, sir.

Q. For Jersey City? A. Yes, sir.

Q. You are employed by Jersey City as its engineer in this matter? A. I am.

Q. What do you think of the project of helping out Wharton, or having Wharton help itself out by the building of a storage reservoir? A. I think that is the proper plan for Wharton to pursue to do that and conserve the water supplies of the State rather than confiscate a water supply which is already used by others.

THE PRESIDENT: A storage reservoir where?

THE WITNESS: On either the upper Rockaway or at Stephen's Brook.

THE PRESIDENT: If they took it in the upper Rockaway, wouldn't it have the same effect?

THE WITNESS: In flood times they could store water sufficient to tide over the drought and not deplete the dry weather flow. At the present time Wharton does not contemplate storing any water at all. They contemplate taking the dry weather flow as it flows by them. In doing that they upset the scheme of conservation of water as developed by Jersey City in building the Boonton dam and they rob Jersey City of half a million gallons daily.

MR. POTTER: How much water would be returned? He says there isn't much.

THE WITNESS: All the water that is taken out by locomotives would not be returned, all the water used by some of the purchasers would not be returned, all the water that is sprinkled on grounds and taken by vegetation would not be returned, and there are other uses for the water where it would not be returned. I haven't any figures as to how much that would amount to.

MR. McKEE: What percentage would that be, about, in your opinion?

THE WITNESS: I don't know how much vegetation uses up. I know it is a considerable amount. I know at Boonton the Delaware and Lackawanna carries away 200,000 gallons a day where they water the locomotives at Boonton. That is a situation that could come about in Wharton. It is hard to estimate how much water is returned to the River from what is taken out. I don't believe the water returned to the River would be the same quality as that taken from the River. There are cesspools in Wharton now that are overflowing into the Rockaway River. They certainly don't return the water to the River in the same condition it was taken out.

Q. How much did Jersey City, if this is a proper question, how much did Jersey City, or did Jersey City control the seepage from the Morris Canal, which water comes outside of the water

shed of the Rockaway River? A. Jersey City has, as I understand it, no control over the operation of the Morris Canal. That goes back to a charter almost one hundred years old. Morris Canal takes water from the River at Dover and other places, and takes it out of the Rockaway water shed. They may possibly bring in water from Hopatcong. They bring in water and take it out at their own option.

Q. How much water is coming from the water shed outside of this water supply that Jersey City does not control? A. I could not say in figures, not a great quantity.

Q. Would you say half a million gallons? A. There might be.

Q. That is being discharged in Wharton today along the Canal over which Jersey City has no control, and which it hasn't paid for? A. Not all the time. In the winter time the Canal is drawn down.

Q. In the winter time we have plenty of water for all. A. When navigation is closed there is not water for all. This last winter Jersey City was drawing on storage for months while navigation was closed and the Canal drawn down.

Q. The question of the Boonton dam; I shall ask the question how nearly has the Boonton dam been emptied? A. At the present time it is drawn down to about 50 per cent. of its capacity.

Q. How much is left there available if the pipe line was big enough to take it? A. The Boonton dam and the reservoir there are built with an idea of balancing off the dry weather as against the wet weather and providing storage capacity suitable to give Jersey City fifty million gallons of water per day on an average for the year.

Q. How many times and how close has Jersey City been to depleting the reservoir? A. They are using fifty million gallons from the Boonton reservoir right now and have been for a long time.

Q. How much is still left capable of being drawn down? A. According to the figures on which it is built, there is no additional storage beyond providing fifty million gallons during dry weather.

Q. How much is left there after the greatest season of drought; how much has been left in the Boonton reservoir that could have been drawn on had there been adequate facilities? A. They haven't had a drought. The present summer has depleted 50 per cent. If they get three dry summers it means the reservoir is not any bigger than it needs to be to tide Jersey City over a cycle of years as that.

Q. Has it ever been so that there hasn't been at the end of the year a large reserve in the Boonton reservoir beyond its requirements? A. Jersey City has only been using fifty million gallons in the last few years. When it was built their consumption was only around thirty millions. It has only been in the last few years that it has been taxed, so that the reservoir has really never been put to its ultimate test. It is computed to yield fifty million gallons per day during a cycle of dry years, and this summer, which was not an uncommonly dry summer, and not in a cycle of dry summers, it has been depleted to more than 50 per cent., or about 50 per cent.

Q. In other words there is a 50 per cent. reserve there yet? A. For this summer to tide Jersey City through until——

Q. The next heavy rain? A. Not until the next summer. Last year the reservoir did not fill until the latter part of March or the first of April, so that that 50 per cent. that remains there has got to tide Jersey City through until the last of the spring.

By Mr. McKee:

Q. What is your total consumption of water in Jersey City? A. I should say pretty close to sixty million.

Q. Do you get any other supply except from the Dover reservoir? A. Yes, they buy from the East Jersey Water Company and also get water from Newark.

Q. Under your present conditions you haven't enough supply there to give your full supply at Dover? A. I have not. The present reservoir was built with the idea of supplying Jersey City fifty million gallons a day. It holds enough flood water when water is plenty in the River to tide them through a drought until it is depleted.

By the President:

Q. How long a drought? A. The ordinary summer drought. It was computed on records that were kept at Philadelphia when the engineers worked this up, it was computed from Philadelphia weather records, and it is estimated that there is enough storage there to tide Jersey City through on a fifty million gallon day basis through a cycle of dry summers as disclosed by the Philadelphia records.

Q. What is the capacity of your main there?

A. Seventy-two inches. It carries down about fifty-one millions a day.

Q. How many do you need a day? A. More than that.

Q. How much? A. I think at times Jersey City has bought as much as ten to twelve million a day in addition to this.

Q. Your main carries down practically all that your present storage capacity will yield? A. Yes, that is the way it was computed. It was computed to bring down all the storage reservoir would yield.

By Mr. McKee:

Q. Would your reservoir there in its present condition supply a larger amount of water if your mains were large enough to carry it down? A. No, sir, it wouldn't. The reservoir is balanced. It is computed to deliver fifty million gallons. It might some years. I couldn't answer your question entirely. Some years when there is plenty of rain it might, but in dry years there isn't enough water there to warrant putting in another main.

Q. Your reservoir there is large enough to hold a three-year supply, isn't it, figuring three dry seasons? A. I don't know that that is positively true. I know that is the usual assumption in computing this.

Q. If your mains were large enough to carry sixty millions a day, would the capacity of that reservoir be sufficient to supply that through three dry seasons? A. No, sir, it would not, I am very sure of that. I am very sure that you could not get sixty million gallons a day there with three summers such as this one.

MR. POTTER: That means it is just through three consecutive seasons of dry weather that this condition would prevail?

MR. BROGAN: Are you testifying?

MR. POTTER: Isn't that true?

(Question repeated.)

THE WITNESS: One good dry one might be enough. When you go to guessing on the weather you are guessing on a pretty uncertain thing. You have got to take records as you find them and apply common sense to it.

MR. McKEE: Why was it necessary for Jersey City to buy water from the East Jersey Water Company and Newark last year?

THE WITNESS: They couldn't get down through this pipe line enough water to supply the city last year when they were short. There are times when the water is going over the spillway. Of course when water is going over the spillway if they had bigger pipe lines to Jersey City they could bring in more water without depleting the storage. But in dry times during the dry season an additional line to Jersey City would not be of any benefit to them because they would soon draw down their reservoir there.

MR. McKEE: What is the total capacity of that reservoir?

THE WITNESS: About seventy-three million gallons. I can give you the figure on that, I think.

MR. BROGAN: That is about it.

MR. POTTER: I want to ask Mr. Potts another question.

Cross-Examination by Mr. Potter:

Q. So that excepting in this time of three years' continuous dry weather, there would be ample water there to give Wharton all it needs? A. I wouldn't say that, no.

Q. Isn't it true when you got any such season as that, that long before that would come about it would be necessary for Jersey City to go out and get additional storage? Should they not have additional storage now? A. Jersey City ought to provide additional storage now, there is no doubt about that.

Q. Wouldn't that storage be located approximately where we have it shown on the plan? A. It might be. There are four or five sites Jersey City has in view. I think from what I notice of that plan that is pretty close to one of them.

Q. Isn't it your judgment as an engineer that if Jersey City gets down to that 500,000 as a matter of fact they ought to build additional storage reservoirs? A. I think they are down now to that. I think 500,000 gallons a day taken out of that River this year would be a menace to Jersey City. I think further than that that Jersey City ought to provide additional storage for their own good aside from your application.

Q. How could it have been a menace to Jersey City when this year you have only used up half your storage reservoir, and if you had had pipe lines you could have doubled your capacity? A. We couldn't. I think the Commission of Jersey City between now and the next spring rains has cause to worry.

By the President:

Q. Isn't a practical thing to construct a combined storage reservoir there which would let Wharton on proper participation in the cost of building come in and use that water? A. I think you are right. I think that there are not laws that permit it now. If these gentlemen had gone to the North District Commission to develop a supply for the common use of Wharton, Dover or Jersey City, it would have been perfectly proper. I think that is what they should do instead of going ahead and making application without regard to the rights of others. I think they should try to get together and develop a common supply. I think that is the course they should have taken.

THE PRESIDENT: Isn't it a course that Wharton would be willing to take now?

MR. POTTER: Yes, sir. The only objection I see is that this development cannot be made for two or three years. Wharton needs the water now. Wharton is willing to join and pay its share of the cost because when we hear the testimony of Mr. Potts that they are up against it, it seems to me absurd to think this town should be compelled to pay $10 for storage when $1 will do long before Jersey City is up against this proposition where year in and year out the supply is needed. We will go further and say if Jersey City in the meantime should be up against this 500,000 gallons we will pay for that water during that time.

THE PRESIDENT: Isn't it a practical thing to get right together? We are here, so far as the State Board is concerned, to conserve for the general interests of the State these waters and distribute them in an equitable way. Here are two municipalities testifying that your community needs this water. There seems to be enough water up there from what you both say because you advocate the building of a storage reservoir further up the Rockaway River. Why isn't it a common sense solution to get together and build one big storage reservoir?

MR. POTTS: There is enough water for that, but the proposition that Wharton offers you is simply to confiscate the dry water flow which will deplete the water shed of its yield by the amount they take out.

MR. McKEE: What is the distance between Wharton and your reservoir at Boonton?

MR. POTTS: About eighteen miles.

MR. McKEE: Wouldn't that itself purify water that came from Wharton?

MR. POTTS: Jersey City contends not. There are dozens of experts who have been employed by Jersey City who say not and there are some who say it will.

THE PRESIDENT: What do you say?

MR. POTTS: My personal opinion is that distance of flow will help some but could not be relied on to purify.

MR. McKEE: Hasn't it been demon-

strated by the report of the experts of the State that the open flow of eleven miles will purify the water?

MR. POTTS: No, sir, I don't know of anything like that.

MR. McKEE: Have you read the reports of your experts of Jersey City on the Belleville water supply?

MR. POTTS: Years ago?

MR. McKEE: Yes.

MR. POTTS: No, but science has changed materially in the last few years on this. The things that cause disease in a water supply are bacteria and unless you destroy those in some way your liability for contamination may run for a good many miles.

THE PRESIDENT: In your opinion what would it cost Wharton to build such a storage reservoir as you think ought to be built?

MR. POTTS: I have not made any figures, but I don't see why it should be a very expensive proposition. I don't think it should be out of reach for them. They propose to build sixteen miles of water mains in their streets. That is a very heavy investment. If they have a demand for water there that justifies building sixteen miles of mains in the street they have a demand that warrants them in providing an adequate supply.

MR. POTTER: They have no such intention at all. I made the statement that if a water main was to be built on every street

that is laid out, it would require that. The City's needs can be very well taken care of by 36,000 feet of pipe.

MR. POTTS: I understood you to say 85,000 feet.

MR. POTTER: No, I said 36,000 feet.

MR. BROGAN: Mr. Oram makes the statement that he has enough water to take care of the needs of the people of Wharton.

MR. McKEE: I don't understand that as the statement of Mr. Potts. He said Mr. Oram told him he was satisfied with the supply as it was.

MR. POTTS: Mr. Oram told me that he was in a position to take care of the water needs of Wharton and that he thought this construction of a municipal supply was not necessary. Then I drew the inference from that statement of his that if that statement was correct that would justify why Wharton does not care to spend a great deal of money for a storage reservoir.

MR. POTTER: Mr. Potts, if I make this statement—

MR. BROGAN: I object to any statement.

THE PRESIDENT: Ask the question.

MR. POTTER: Mr. Potts, if Mr. Oram's statement is true, then how seriously will we impair the Jersey City water supply by taking the water from the Rockaway River?

MR. POTTS: I don't know. Your application calls for 500,000 gallons.

MR. POTTER: But we won't use it, according to your statement.

MR. POTTS: I don't know what you will use.

(A recess was here taken until 2:00 o'clock).

AFTER RECESS

MR. BROGAN: There is just one question I would like to ask Mr. Potts.

CLYDE POTTS resumes the stand.

By Mr. Brogan:

Q. What is the condition of the reservoir at the present time? A. It is the lowest it has ever been in the history of the water plant.

THE PRESIDENT: How low is that?

THE WITNESS: It is about, pretty near fifteen feet above the spillway.

THE PRESIDENT: There are how many gallons in it?

THE WITNESS: About half of its total capacity that is usable has been drawn out.

MR. BROGAN: That is all.

H. T. CRITCHLOW, being duly sworn testified as follows:

THE PRESIDENT: Do you want to make your own statement?

THE WITNESS: I would like to make an opening statement that the facts and figures I will base my statements upon have not been made by personal observation but by consulting reports of the various companies made to the different state departments, notably the Board of Public Utilities and the Department of Conservation and Development and from information obtained from officials of the Water Company. I will so designate the sources of the information as I am questioned.

By Dr. Kummel:

Q. You have visited Wharton and the site of the proposed diversion? A. Yes, sir.

Q. And made a personal inspection of that tract? A. Yes, sir.

Q. From the data to which you have access, what is the drainage area above the Boonton reservoir which is tributory to the Boonton reservoir? A. 122.5 sq. mi.

Q. So far as you have been able to learn the storage capacity of the reservoir is how much? A. It is about 7,500 million gallons, obtained from records on file with the Department of Conservation and Development.

Q. And the conduit which connects with Jersey City is designed to supply how much per day? A. Fifty million gallons daily.

Q. The average daily consumption by Jersey City, as shown by the reports on file in the Department of Conservation and Development during 1917 was how much? A. 52.828 million gallons daily, that is the average.

Q. The average daily consumption? A. Yes.

Q. Was all of this drawn from the Boonton reservoir, or does it include the amount which was purchased from the East Jersey Water Company and the City of Newark? A. It does not include water purchased from other sources.

Q. This 52.828 million gallons is the amount that was drawn from the Boonton reservoir? A. Yes, sir, as reported.

MR. SHERRED: They did get fifty-two and something off the reservoir.

THE WITNESS: Yes, that was it, based on their reports.

Q. What is the drainage area of the Rockaway River and the Rockaway water shed above the proposed intake for the Borough of Wharton? A. 28.1 square miles.

Q. What percentage does that bear to the entire area tributary to the Boonton reservoir? A. About 23 per cent.

Q. A little less than one-quarter? A. Yes, sir.

Q. What data were you able to find in regard to the minimum flow of the Rockaway River in the vicinity of Wharton? A. The only data that seems to be available, or that I could find was that contained in Volume III of the reports of the New Jersey Geological Survey, which gives certain tables which are applicable to various streams

throughout the State. In connection with the discussion of the Rockaway River in this report, they refer to a table designated as No. 52, in which the minimum flow in the dryer period is stated to be as low as 140,000 gallons daily per square mile, which, applied to the water shed above the proposed intake would equal the minimum flow of 3,940,000 gallons daily, which is the only available data I was able to get.

Q. From your investigations have you been able to learn whether or not the figures set forth in Volume III, based on these tables, are conservative figures for the dry season flow as demonstrated by experience, since the date of that report? A. In practically every case where I have had a chance to check them up they are conservative.

Q. If they err they err on the safe side? A. That is the tendency, yes, sir.

THE PRESIDENT: Which is the safe side?

THE WITNESS: The figures are lower than the actual flow.

Q. What proportion of the minimum flow, as indicated by these tables, would the 500,000 gallons which the Borough of Wharton proposes to take be? A. That figure is to be about 13 per cent. of the minimum flow of the stream, based on that previous estimate.

Q. Were you able to obtain any data from any source as to the degree to which the Boonton reservoir has been drawn down during the years since its construction? A. Previous to the present season, the figures for which I have only available

up to the last of September, the records show that the lowest depletion of the reservoir was in 1914, when it was down 13 feet below the spillway.

Q. Where did you obtain those records? A. I obtained that particular figure from Mr. James S. Nolan, the Superintendent of the Boonton reservoir, on the eleventh of September, 1917. I have the notes which I took at that time before me.

Q. He is an official of Jersey City? A. Yes, sir.

Q. Do we understand that this is the lowest point to which the reservoir had been drawn down up to the 30th of September, 1918? A. Yes, as far as my information goes. This report was made on the 11th of September, 1917, and I have consulted the records since that date up to the 30th of September, 1918.

Q. During the past year up to September 30, 1918, you have not found any record of a draught greater than this 13 feet? A. No, sir.

Q. At that time, then in 1914, when the surface had been drawn down 13 feet, how many million gallons was there in storage? A. Well, I consulted in that connection a capacity curve for the reservoir, which was submitted to our Department, the Department of Conservation and Development by the Jersey City Water Department, which gives the capacity as 4,500 million gallons at an elevation 13 feet below the spillway crest.

Q. This information was obtained from the data furnished by the officials of Jersey City? A. Yes, sir.

Q. And that would be how many days' supply, estimating a day's supply at 50 millions of gallons? A. Represent 90 days supply at that rate.

Q. In saying that it represents 90 days' supply, do you take into account the daily increment of flow during those 90 days? A. That is not included. It is simply from storage.

Q. Simply from the storage? A. Yes, sir.

Q. Assuming that there was absolutely no inflow into the reservoir during the 90 days, there would be a 90 days' supply? A. Yes, sir.

Q. Have you any data as to what time of the year in 1914 that greatest depletion took place? A. I don't have the data.

Q. You don't know what month? A. No, sir.

Q. Have you any other facts you wish to bring to the attention of the Board? A. It will probably be remembered that Mr. Potts' testimony a moment ago was to the effect that during the present season, I understand it to be since September 30th, the depletion has been as low as 15 feet below the spillway crest which would be lower than the other record which I gave, and I believe would represent about half of the total capacity of the reservoir.

Q. You would agree, then with Mr. Potts' statement that in the present season the reservoir has been drawn down to only half its capacity of 75 hundred million gallons? A. Yes.

By the President:

Q. In your opinion would the proposed taking result in an unsanitary condition in dry season? A. The taking of the 500,000 by Wharton would not deplete the flow sufficient to cause an unsanitary condition.

Q. Or otherwise conflict with those provisions of the law with regard to our rights to grant the

permit? A. I don't think they would conflict unduly with the rights of lower interests.

By Mr. Brogan:

Q. Mr. Critchlow, as an engineer, don't you think that it would be a more efficient and a better solution of this difficulty, if indeed it is a difficulty, for Wharton to build its storage reservoir, and thus in times of plenty when the water is plentiful and would otherwise be going to waste, have this amount conserved for Wharton? A. Well, from a purely engineering standpoint and as a conservation measure, leaving out the question of cost, it would probably be a better proposition.

Q. Then, looking at it from the standpoint for which this Commission was created, namely the conservation of waters and the like to say, as an engineer that for Wharton to take provisions to safeguard itself and to store up these waters which would otherwise go over spillways, etc., it would be better to build a storage reservoir? A. Well, I would say it would be with the qualification that that storage could be provided for in the future. I don't think it is necessary to provide the storage until it is needed.

Q. At the present time if this project is allowed by this Board, the Town and Borough of Wharton would be using our reserve, wouldn't it? A. Well, you would eventually get the water but I don't know whether you could call it your reserve.

Q. What do you mean by "eventually get the water," Mr. Critchlow? A. It will eventually find its way into the Boonton reservoir, which is your reserve.

Q. In as good a condition as when it left it, would you say? A. Well, I assume that you refer to the condition that the water would be in provided Wharton uses it for domestic purposes and then discharges it into the stream.

Q. Yes. A. Well it would be changed somewhat as to its purity. I don't believe I could give you anything more than my judgment as to what it would be as it reached the Boonton reservoir.

Q. Do you think it would be better or worse? A. Well, it would probably be worse than the natural flow.

Q. Our needs are about 50 million gallons per day generally. A. Yes.

Q. That is your understanding? A. Yes.

Q. Well, in the dry season, and assuming that we would have a cycle of dry years, don't you think it would be attended with some hazard to have anybody take half a million gallons per day from this stream? A. Well, compare the amount of water that would be taken by Wharton with the amount that flows in the stream and the depletion of the flow would only be, as I stated a moment ago, about 13 per cent. of the amount flowing at that point, and it seems to me that the 500,000 gallons which Wharton would take being only about 1 per cent. of the amount which Jersey City needs, that even from the engineering standpoint that would not decide in itself when the storage would have to be increased, that is your needs would have to be increased more than by 1 per cent. of your demands in order to make the change justified, and we must remember that at the present time Jersey City is buying from other

sources up to 12 million gallons a day in certain periods of the year to meet its demands, and by increasing that amount they buy by half a million it would not create any hardship on Jersey City or the companies from which they buy the water.

Q. It would cost us about $30 a day for what they would take up? A. At the ordinary rate of selling water at wholesale, yes.

Q. That is some damage, isn't it? A. Yes, but it was stated this morning that Wharton would be willing to compensate Jersey City in case such an emergency arises, in case such a plan had to be put into operation.

Q. Do you understand that Wharton has said it would compensate; do you understand that from them? A. I understood that from the statements this morning. I don't know whether they are willing to enter into a contract to that effect.

Q. Assuming for the moment that our reservoir was non-existent in Boonton, the taking of these half million gallons a day would damage us in that event, would it not? A. Yes, but if you had no reservoir there you would not be taking water from the Rockaway River to meet your demands.

Q. We don't know about that, do we? A. I am assuming it.

MR. BROGAN: That cannot be entered into this case as a fact, that we would not be using the Rockaway River if we didn't have a reservoir.

THE PRESIDENT: Can the other, either? You have your dam there.

MR. BROGAN: My argument is this: The way this thing shapes up to me it looks

as though because we have a reservoir because we have been spending money,—and we are being constantly called on to spend more,—the other municipalities of the State get from under their direct obligation to the people, they won't spend any money, and the individual taxpayers of Jersey City,—I am one of them as well as one of the lawyers,—don't think it is fair, and I don't think it is fair.

THE PRESIDENT: Personally, without attempting to express an opinion definitely, it seems to me your position is right enough but the answer to that is, is it not, that Wharton has said they want water now, and you have all the water from that stream now that your pipes will allow. They want a right-of-way now and they say whenever you are ready to spend money and put up a storage reservoir, they will join you.

Assuming this, we could put into your permit a condition that when Jersey City got ready to avail itself of such surplus water as is provided in that stream more than Wharton actually needed for its purposes that Wharton should join and pay its proportionate part of the cost of a storage reservoir there. Why doesn't that settle the whole question in a perfectly equitable way?

The further condition is suggested, to which I understand Mr. Potter assented this morning, that if they took the 500,000 and there was not then left enough for Jer-

sey City they would pay for the 500,000, or such part of it as Jersey City was obliged to buy from some other source. Why doesn't that meet the situation in a perfectly square way?

MR. BROGAN: We have not been brought face to face with the situation where we have a recurrence of dry years. We have been getting 50 million gallons per day through the pipage which we have but the reservoir itself has not been taxed in a manner in which these weather conditions that are possible would tax it.

Mr. Critchlow's theory, and this is said with all respect to him, I am not an engineer, I don't know, he may be perfectly correct, but would it not seem to me to be practical to say that this container or reservoir would last for 90 days, assuming we did not have any water at all coming in. When you get down around the muck I don't think that would be good water for domestic purposes; I don't know; I haven't even talked to Mr. Potts about it. It seems to me that is all very well in theory.

THE PRESIDENT: Mr. Sherrerd states that your reservoir is so constructed that you cannot get the dregs of it anyway.

MR. BROGAN: I see.

THE PRESIDENT: I don't see that that bears on it. Here is a case where Wharton wants water right away and it is willing to join you right now in building a

reservoir which will give you a bigger supply.

MR. BROGAN: Then we need not go any further. We are willing to join them if they are ready to stand by that proposition.

THE PRESIDENT: That is what I understood them to say.

MR. BROGAN: We are satisfied with that. Of course, the conditions this Board might put in a permit would not be binding on Wharton.

THE PRESIDENT: It would be binding to the extent that it could not go ahead and get water without complying with them. They have to sign a consent accepting them.

MR. BROGAN: I am thinking if this condition did not obtain for some time and they kept on getting this water for a year, they might say, "We won't pay, we will build our own reservoir now."

THE PRESIDENT: That wouldn't hurt you any if they did. There is no reason why they should not have water now if you don't want it or until you are ready to take it. It is only going down the stream there, going to waste.

MR. POTTS: There isn't any going to waste now.

THE PRESIDENT: Who is taking it now?

MR. POTTS: It is running into the reservoir.

THE PRESIDENT: But you are not using it.

MR. POTTS: No. Jersey City is using the entire dry weather flow. They are drawing on their storage now; they are drawing 32 millions from reserve and using the entire dry weather flow of the river.

THE PRESIDENT: I can't see why the conditions which can be put into this permit, and which necessarily would be consented to before the permit would become effective, could not provide for this on the part of Jersey City.

MR. POTTS: Why don't they get together with Jersey City and build a reservoir? What is the necessity for a permit?

MR. PFEIL: The point is this storage reservoir could not be built in a week or six months or a year.

MR. POTTS: It could be built as quickly as a supply in the city could be built.

MR. PFEIL: I understood that was the reason for building this temporary plant, because they wanted it sooner than the impounding reservoir could be constructed.

MR. POTTS: Well, the war is over now, I suppose they could do it, but the situation is that Jersey City needs all the water that is there in storage, and it is faced now with building an additional storage somewhere else, and if Wharton is willing to co-operate in the construction of a new storage reservoir why not get at it immediately?

THE PRESIDENT: Is Wharton ready to get at it immediately?

MR. POTTER: There is nothing about our plan to prevent their coming in when the emergency arises. Our idea is to put into permanent construction as little as possible so that we are free to join in any proposition. Wharton needs water at once. It has taken three or four years to build the big dams that are constructed in various parts of the country. We are such a small end of the game and our contribution will be so small that it is hardly fair to tie up Wharton with any project that may take considerable time, and the amount they would contribute is so small it would not affect Jersey City's desire or lack of desire to proceed with this work. Just as soon as Jersey City goes ahead, whether or not we join would not make any difference to Jersey City. Our contribution is nothing, it is so relatively small compared with what they would have to have. It means Wharton will not get its water supply for some time to come. Just as soon as this Board shows it won't interfere with Jersey City we will pay the bill.

MR. POTTS: One objection is the fact that we don't know what the bonded debt of Wharton is. It is possible when their pro rata share was worked out they might not be in a financial position to meet it, and then the burden would fall on Jersey City.

THE PRESIDENT: That would be in favor of the conditional permit rather than your plan. The moment they did not comply the right to take water would be stopped in statu.

MR. POTTS: Do you mean they would be stopped from taking water.

THE PRESIDENT: Yes.

MR. POTTS: Do you know of a case where a town was stopped?

THE PRESIDENT: The question came up on Certiorari in one of our former cases, whether the Board had a right to grant a permit on condition. The courts held it had in the Collingswood case and in the Wanaque case too. We have a right to put on any reasonable conditions. Consequently, I don't see why that would not protect you if you have any doubt as to the financial ability of Wharton.

MR. POTTS: I simply raised that as one of the things that might happen.

MR. BROGAN: Of course, Mr. Potts has not got a very wide jurisdiction I assume, nor have I, but it seems to me the Director of the Department ought to be consulted about it. Perhaps we can iron out these difficulties, and I understand he was more than willing to meet them half way, that is my understanding, that he wanted to enter into some agreement now and it was thrown over the fence by the action of Wharton.

MR. SHERRERD: Would the building

of the reservoir mean the raising of the Boonton dam?

MR. POTTS: I think not. I think the Commission is talking of building a dam below Hibernia and one along the valley.

MR. SHERRERD: In case it meant the raising of the Boonton dam, the development of the plant for Wharton would be more applicable for them than getting storage above. In other words, if they participate proportionately in the additional storage which would be obtained by raising the Boonton dam then they would have to take water out of the river any way so that that would fit in with the suggested plan.

MR. POTTS: In that case 500,000 gallons a day would be for Wharton.

MR. SHERRERD: Well, either way, take the run of the stream, it would be the same.

MR. POTTS: Yes.

(Adjournment here taken.)

Reasons.

NEW JERSEY SUPREME COURT

MICHAEL I. FAGEN, Director of the Department of Streets and Public Improvements of the City of Jersey City, *Prosecutor,*	
VS.	
THE MAYOR AND COMMON COUNCIL OF THE BOROUGH OF WHARTON, THE DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NEW JERSEY, AND THE NORTH JERSEY WATER SUPPLY DISTRICT. *Respondent.*	On Certiorari

The said Prosecutor, Michael I. Fagen, by his Attorney, comes and prays that the grant or permit of the Department of Conservation and Development of the State of New Jersey permitting the Mayor and Common Council of the Borough of Wharton to divert an average of five hundred thousand (500,000) gallons of water per day from the Rockaway River in the State of New Jersey may be set aside and reversed and for nothing holden, for the following reasons:

REASONS

1. The Department of Conservation and Development of the State of New Jersey, which board or body granted the permit herein com-

plained of, has no jurisdiction in the premises whatsoever.

2. Jurisdiction in the premises for the allowing of a permit or grant to divert water from the Rockaway River resides solely in the North Jersey Water Supply District.

3. The granting of the permit herein complained of is totally at variance with the laws of this State and the policy of those laws regarding conservation and development of natural resources.

4. The granting of such permit is an illegal interference with a vested property right of The Mayor and Aldermen of Jersey City, a municipal corporation of the State of New Jersey, whose legal representative prosecutor herein is.

5. It is unlawful for The Mayor and Common Council of the Borough of Wharton to divert waters from the Rockaway River to the serious detriment of the lower Riparian owner, The Mayor and Aldermen of Jersey City.

6. The granting of this permit without compensation to The Mayor and Aldermen of Jersey City and without any present unavoidable necessity is unlawful, and is a taking of property without compensation.

7. The allowance of such a permit or grant is a taking of property or a violation of property rights without due process of law.

8. The allowance of this permit or grant is not conducive to conservation of the natural resources of this State, and permits The Mayor and Common Council of the Borough of Wharton to take the waters of said river as their flow, while The Mayor and Aldermen of Jersey City is forced

to build reservoirs and storage plants in order to conserve and store up such waters.

9. The said grant or permit is in divers other respects illegal, unjust and oppressive, and should be set aside and be for nothing holden.

Dated, May 15th, A. D., 1919.

THOMAS J. BROGAN,
Attorney for Prosecutor.

Depositions.

NEW JERSEY SUPREME COURT

MICHAEL I. FAGEN, Director of the Department of Streets and Public Improvements of the City of Jersey City, *Prosecutor,*	
VS.	
THE MAYOR AND COMMON COUNCIL OF THE BOROUGH OF WHARTON, THE DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NEW JERSEY, AND THE NORTH JERSEY WATER SUPPLY DISTRICT. *Respondent.*	On Certiorari

Depositions on behalf of the Prosecutor, taken before me, Theodore Rurode, a Supreme Court Examiner, at my office, 1 Exchange Place, Jersey City, New Jersey, this fifteenth day of May, 1919, at ten o'clock in the forenoon, pursuant to notice hereto annexed.

APPEARANCES:

THOMAS J. BROGAN, ESQ., *Attorney for Prosecutor.*

DAVID F. BARKMAN, ESQ., *Attorney for Borough of Wharton.*

JOSEPH LANAGAN, ESQ., *Attorney for the Department of Conservation and Development of the State of New Jersey.*

It is stipulated that the depositions be taken stenographically and the signatures of the witnesses waived.

HUDSON COUNTY: ss.

I do solemnly swear that I will faithfully, fairly and truly take stenographically and reproduce in typewriting the depositions in a certain cause now pending in the New Jersey Supreme Court, wherein Michael I. Fagen, Director of the Department of Streets and Public Improvements of the City of Jersey City, is Prosecutor, and the Mayor and Common Council of the Borough of Wharton and others are respondents; so help me God.

Taken and sworn to before me
this 15th day of May, 1919.

HARRY SHIRMER,
THEODORE RURODE,
Supreme Court Examiner.

HUDSON COUNTY: ss.

CLYDE POTTS, being first duly sworn according to law, on his oath deposes and says:

Direct Examination by Mr. Brogan:

Q. Mr. Potts, what is your full name? A. Clyde Potts.

Q. And your business address? A. 30 Church Street, New York.

Q. And your profession? A. I am a civil and sanitary engineer.

Q. What experience have you had in this?

MR. BARKMAN: You need not qualify him. We will accept him without qualification. It is admitted that Mr. Potts is a duly qualified civil and sanitary engineer and is admittedly an expert on questions regarding water supply.

Q. You are at present in the employ of Jersey City as a consulting sanitary engineer? A. I am; yes, sir.

Q. And as such have you given any study to the water supply of Jersey City? A. I have; yes, sir. I have been employed during the last year and a half or two years on the problem of furnishing Jersey City with an additional water supply and with the protection of the present supply from polution.

Q. Jersey City's water supply is taken from where, Mr. Potts? A. Jersey City's water supply is taken from the Boonton Reservoir, so-called, which is located at Boonton, New Jersey, and impounds the waters of the Rockaway River at that point.

Q. Will you state briefly just what kind of a stream the Rockaway River is, and where it rises and terminates? A. The Rockaway River is a tributary of the Passaic River, one of the largest tributaries of the Passaic River; it rises in Sussex County and flows generally southerly and easterly to Boonton; at Boonton, on the site of the Jersey City Reservoir, the Rockaway River water shed has an area of 122 square miles; this 122 square miles is the gathering ground for Jersey City's water supply and gathers the rainfalls and they flow down through the bed of the River and into the Boonton Reservoir at Boonton.

Q. What is the extent of Jersey City's storage plant at Boonton? A. The Boonton Reservoir holds about seven billion three hundred million gallons.

Q. When it is full? A. When it is full, yes.

Q. What investment does that represent, Mr. Potts? A. It represents an investment, with the pipe line to the City, of about seven and a half million dollars, at one time. Of course, with the prices now, and with an actual increase in the value of the water supply, I say that probably fifty per cent. more than that would be the present value of the water plant.

Q. Mr. Potts, you have done some work in connection with this water supply, haven't you, in connection with the water works, and with the ascertainment of the situation around the Rockaway River there? A. Yes, sir. In 1908 and 1909 I was instructed by the then Street and Water Board of Jersey City, which had charge of the water supply to make a survey of the Rockaway River from the Boonton Reservoir to its junction with the Passaic River to ascertain what Riparian rights the contractor, Patrick H. Flynn, had acquired from the Riparian owners; and in accordance with those instructions I made a survey showing all the Riparian owners on the Rockaway River, with the frontage which they owned on the river from the dam to the Passaic River and an investigation was made to see which of these Riparian owners Patrick H. Flynn had purchased Riparian rights from. I have that map here. These Riparian rights which Patrick Flynn purchased are the right to divert seventy million gallons of water daily from the river; as against

these Riparian owners there were two or three small mill dams, the rights of which were also purchased by Patrick Flynn.

Q. So that, from your examination, and from the agreement which was signed by Flynn and Jersey City, it appears that Jersey City has the right to divert an average of seventy million gallons of water per day from the Rockaway River? A. Yes; they have a right to divert a minimum of seventy million gallons; and as a maximum there they have an absolute right to divert seventy million gallons of water daily.

Q. Are you familiar with the locality at which Wharton proposes to divert, under its petition, five hundred thousand gallons of water per day? A. I am; yes, sir.

Q. Where is that point? A. It is in the valley of the Rockaway River, just above the railroad bridge of the Central Railroad; it is right near the line between the Township and the Borough, on the Rockaway River, and it is from the main stream of the Rockaway River.

Q. And that point is higher up on the stream than Jersey City's intake, is it? A. Yes, it is about fourteen miles above the point where Jersey City takes water.

Q. Jersey City then is the lower Riparian owner? A. Yes, sir.

Q. Where does Wharton now get its water supply from? A. It gets its water supply now from a small brook that runs down through the valley and empties into the Rockaway River.

Q. What is the name of that brook? A. Mr. Potter calls it Spring Brook. I suppose that is what it is known locally as.

Q. Do you know the location of Spring Brook? A. Well, just generally, that it is in the Borough of Wharton and is a small collecting area in there above Wharton and in Wharton.

Q. That brook itself is no part of the Rockaway River? A. Yes, that is a tributary of the Rockaway River, Spring Brook is.

Q. But it is not part of what is known as the Rockaway water shed? A. Yes, it is part of the Rockaway water shed; it is a small part of the Rockaway water shed.

Q. Has the Borough of Wharton, as far as you know, any other available source of water supply? A. Well, there are a number of sources which Wharton could utilize as a water supply; they could develop their present supply on Spring Brook, by building additional storage reservoirs there; they could go on Stevens Brook and build a storage reservoir there; or they could go up in the valley and build a storage reservoir there.

Q. What water supply would they take from on the valley, as you call it? A. Along the valley?

Q. Yes. A. These that I have mentioned are all tributaries to the Rockaway River, but by building a storage reservoir, instead of drawing on the Rockaway River as the source of water supply, they would draw or store the water without storing in and depleting the flow of the Rockaway River as the present plant proposes.

Q. And, as an expert, would you say that that was a feasible plan, to build an additional storage reservoir on Spring Brook or Stevens Brook? A. It is entirely feasible to build an additional storage reservoir on Stevens Brook and in the Longwood Valley. I am not sure how this ad-

ditional storage reservoir could be built on Spring Brook; that is a question I have not gone into so I could not give a positive answer on that.

Q. Are you prepared to testify with regard to building a storage reservoir on Stevens Brook? A. Yes, sir; absolutely.

Q. What would you think of that, as an expert? A. My judgment would be that it was a logical place for Wharton to secure an additional supply.

Q. In your judgment will Wharton have to do that ultimately? A. It will have to do that or its equivalent ultimately.

Q. Do you know of any reason why that should not be done now? A. I do not, unless it is a matter of finances.

Q. Are you generally familiar with the persons, companies or municipalities deriving water supply from the Rockaway River? A. Jersey City gets its supply from the Rockaway River; the Morris Canal has diversion rights in the Rockaway River for the purpose of operating the canal; and the mills in Boonton—you are speaking of places below Wharton's point of diversion?

Q. Yes. A. Mills in Boonton have the right to the flow of the Rockaway River, as have power plants at Boonton; I think there is one at Powerville, and there is a mill in Rockaway that uses the Rockaway River source of supply for operating its mill; the Lionadale Mill in Rockaway also has a dam and uses the Rockaway River as a source of supply for their manufacturing purposes.

Q. Is that all, in a general way, that you know

about? A. That is all immediately on the Rockaway River that I know of; of course when you get down in the Passaic River, into which the Rockaway River empties, there are a number of users down in there of the Rockaway River water.

Q. Mr. Potts, do you know the amount of water used daily, that is, the average daily supply that Jersey City used, in the year 1916? A. They used in the neighborhood of fifty million gallons daily; perhaps something less than fifty million in 1916.

Q. In 1917 was it greater or less? A. Well, it has increased. I should go back. In 1908 or 1909, the City was using about thirty-five million gallons of water daily, and there has been a steady increase of consumption in Jersey City until at the present time the consumption is about fifty-two million gallons daily. That is the maximum daily consumption I speak of now. The City is taxing its present pipe line to Jersey City at the present time to its limit; it is using all that it can get through the pipe line from the Boonton Reservoir.

Q. And if this application from the Borough of Wharton is permitted to stand and Wharton exercises its right under this permit to take half a million gallons a day from the Rockaway River, what will the practical effect of that be on Jersey City? A. It will deplete Jersey City's supply by the amount they take from the Rockaway River, and put Jersey City to the expense of providing additional storage to make up for the amount which the Borough of Wharton is permitted to take.

Q. From the time that you had this question under observation has Jersey City been able to take its supply at all times from the natural dry-weather flow of the river? A. No; by no means.

Q. What has it had to do? A. It has had to draw on its storage at Boonton.

Q. Therefore, if I understand you, the ordinary flow of the river, as far as Jersey City is concerned, eliminating its storage, would not have been sufficient to have supplied Jersey City's water needs? A. No, by no means. For more than half the time during the year, Jersey City takes all the dry-weather flow of the Rockaway River, and draws on its storage besides.

Q. Now, I understand you to say, that Jersey City is using its pipe line to its utmost capacity; is that correct? A. Yes, to supply the needs of the City.

Q. And therefore the practical effect of Wharton diverting five hundred thousand gallons a day would be that Jersey City's present pipe line system would be inadequate to supply it? A. Well, the situation is this, Mr. Brogan: The City is drawing from the Boonton Reservoir at the present time more water per day than the Boonton Reservoir is calculated to store and supply the water in conjunction with the dry-weather flow of the Rockaway River; in other words, the Boonton Reservoir is completed to have sufficient storage, which, in conjunction with the dry-weather flow of the Rockaway River, will give them an average daily consumption of fifty million gallons per day; so that at the present time the City is really drawing on its storage reserve at Boonton two million gallons in excess

of what the Boonton Reservoir was completed to supply; and any interference by Wharton with the dry-weather flow of the Rockaway River would, of course, tax the reservoir that much more beyond its capacity than it is being taxed at the present time.

Q. Are the water needs of Jersey City increasing or not? A. Very materially on the increase. As I pointed out, the increase from 1908 and 1909 has gone up fifteen million gallons per day, and that curve of increase is rising steadily.

Q. As far as the reservoir itself is concerned, can you give us an example of what the effect of this diversion by Wharton would be, looking now to the storage reservoir at Boonton; what practically would be its effect as to decreasing the efficiency of that reservoir? A. The diversion of five hundred thousand gallons a day by Wharton would have the practical effect of taking eight inches off of the surface or the top of the dam and lowering the water level of the Boonton Reservoir to that extent.

Q. Can you tell us how you arrive at such a conclusion? A. Well, the depletion of the dry-weather flow of the Rockaway River by five hundred thousand gallons a day would put Jersey City to the necessity of providing additional storage to make up for that diversion; or, looking at it the other way, it would be the same thing as reducing the present storage reservoir of Jersey City by the amount of the diversion.

Q. So that, practically speaking, the granting of Wharton's application would mean that Jersey City will be forced to spend money for additional storage, rather than to have Wharton provide

its own additional storage now? A. That is absolutely the situation.

Cross-Examination by Mr. Barkman:

Q. Mr. Potts, your whole estimate is based on the fact that the Borough of Wharton would divert five hundred thousand gallons of water per day, isn't it? A. Yes.

Q. For 365 days in a year?

Q. Assuming that the actual diversion of the Borough of Wharton at the present time is only twenty thousand gallons, would that materially effect Jersey City?

MR. BROGAN: I object to that on the ground that the grant from the State Board of Conservation and Development to Wharton seems to have the provision that Wharton has the right to divert five hundred thousand gallons a day, and any idea that she will not exercise that prerogative seems to me to be immaterial.

A. Why, I have assumed in my calculations that the Borough of Wharton intends to use the amount of water that their application and permit carries, of course.

Q. That is hardly responsive to my question. A. That was the assumption that I worked on.

Q. Assuming now that it is only twenty thousand gallons per day, would that materially affect Jersey City? A. Well, of course, it would affect my calculations; anything less than that would affect my calculations.

Q. Only twenty thousand gallons would be infinitesimal, would it not, taken fourteen miles

above the source of collection? A. Twenty thousand gallons would be only twenty thousand gallons, of course.

Q. Do you know how large a place Wharton is? A. Well, it is a little village up there above Boonton.

Q. It has about twenty-five hundred people? A. Yes.

Q. Suppose there were three thousand people, and every one was getting water, what would be the normal consumption per day in that case? A. Well, for domestic purposes?

Q. For domestic purposes. A. Well, you cannot calculate in that way, Mr. Barkman, because of manufacturing establishments and railroads and other enterprises that draw on the municipal water supply besides the domestic users.

Q. We will get to that next; just take for domestic purposes. A. Well, three thousand people, with the usual allowance in the engineering profession, is one hundred gallons per day, and taking that rule it would run up to three hundred thousand gallons per day; there are cities that show greatly in excess of that, though. Philadelphia uses more than two hundred gallons per capita, and on the basis of the Philadelphia consumption, it would be six hundred thousand gallons per day. You cannot always say what it would be in advance.

Q. But the Borough of Wharton would have to grow a great deal, and develop wonderfully in order to take its maximum amount granted to them by the State? A. No, I don't think so. I don't think five hundred thousand gallons for a city of three thousand is an unusual amount or

unusual quantity to expect they would use. My recollection is that Boonton, which is a place that has a great deal of the same characteristics that Wharton has, is using pretty close to a million gallons per day.

Q. Boonton is much larger than Wharton is; it is about double the size. A. About double.

Q. You know at the present time that there is only about one-third of the Borough that is being served? A. Well, I know that they are not all being served; I don't know the figure. I recall there was something stated like that.

Q. And then, your calculations, as you have stated, are entirely based upon the fact that five hundred thousand gallons would be diverted? A. Yes.

Q. And that would lower your reservoir some six or seven inches, and possibly eight inches? A. I think about eight inches.

Q. That is, Jersey City would only be injured then through the dry-weather flow? A. Well, she would be injured, of course, through any season, of course, when she was drawing on her storage rather than depending on the natural flow of the Rockaway River as a source of supply.

Q. With the water going over the spill there, there is plenty of water there in the reservoir and Jersey City would not feel the effect of the diversion by Wharton at all, even assuming that it took the whole five hundred thousand gallons, would it? A. Yes. I provided in my answer when the Rockaway River was not sufficient to supply it, but then, of course, she would be injured by diversion by anybody above Boonton.

Q. You have read over the consent from the State? A. I believe so; I am not sure of it. I have not read the corrected one; I understand there were some corrections made by Wharton when they executed it.

Q. You read a copy of the grant? A. I read a copy of the first grant when it was there, but I was under the impression, in accepting the grant as to the terms of it, that Wharton made some amendment or some suggestions.

Q. I call your attention to Section 3 of the consent, which reads as follows: "Whenever it shall become necessary for Jersey City to provide additional storage or operate a water shed, the Borough of Wharton shall be obliged to contribute to the cost thereof such sum as this Board having heard the parties in interest, may then determine to be equitable, or in lieu thereof shall provide such additional storage as this board may then order," and I ask you whether this does not cover all possible injuries that may happen to Jersey City? A. I have two objections to that, Mr. Barkman: The first one is that I think Jersey City is now at the point, and the second instance, I do not think——

MR. BROGAN: At the point of what?

A. At the point where she needs additional storage; and the second suggestion, I do not think that is operative; I think there is too much modus operandi to it.

Q. Then you are objecting simply to the form of the grant and not to what may be considered the effect? A. No; and the general impracticability.

Q. Outside of impracticability, isn't that set forth in such a way that Jersey City would be protected; doesn't it say in very plain language that if we take any water and you were injured from it, they could make us build our own storage reservoir? A. It says that in a way, yes.

Q. Where do you get your basis for estimating the amount of water used by Jersey City? A. From the records in the City Hall.

Q. Do you know how it is being used, whether it is being used economically or otherwise? A. What Jersey City uses?

Q. Yes. A. Why I assume it is being used economically; I know that the City has a force of inspectors out to stop all unnecessary waste in the way of leakage; they go through the railroad yards and other large users, and they have many inspectors that continually keep a check on wastage, which is rather an unusual thing.

Q. I mean, had your investigation gone along that line? A. Not mine, no.

Q. You don't know whether all the taxes are metered, or whether they have a house rate, do you? A. They have both.

Q. What is the proportion? A. I could not tell you the proportion. My recollection is one-half, but I would not make that as a positive statement.

MR. BROGAN: I think that is about right.

Q. Have you any knowledge as to whether the metered rate would conserve the usage of water or not? A. Well, I think generally it does, yes;

when people have to buy things by the gallon they are usually more careful of it.

Q. Do you know what percentage such saving is? A. No, I could not tell you that.

Q. But, in your opinion as an expert, it would be a large saving if they were all metered? A. It might not; in some cities it might. I would not say in Jersey City, because the large users, except the railroads, are all on metered service.

Q. You would not call them domestic consumers? A. That is a question for you lawyers to squabble out among yourselves.

Q. But you are giving us, in your estimate, the amount of water, whether used for manufacturing purposes, for railroads, or other plants that use water, I suppose? A. All the water Jersey City sells or uses for its own use in Jersey City.

Q. Do you remember whether they have a flat rate for these people, or meters? A. For which people?

Q. For those large manufacturing concerns. A. Oh, I think all the larger water users are on meters; I think practically all the manufacturers which use water in the city are on meters, and the railroads are; they are among the largest users.

Q. How many inhabitants are there in Jersey City? A. About 350,000.

Q. Have you any idea as to how many are takers of water for domestic purposes? A. In the City?

Q. Yes. A. No; I haven't those figures with me; I had them at times but I haven't got them with me now. It is pretty safe to say that prac-

tically everybody in Jersey City uses the Boonton supply.

Q. If Jersey City had a complete meter system, would there not be a large saving in the consumption of water? A. Well, that is problematical, Mr. Barkman.

Q. From your experience, now, as an engineer, in other places, hasn't it worked out to the advantage of the municipality furnishing water? A. I would say generally, as a general rule, that meters tend to reduce the consumption, and that that is well recognized among engineers generally.

Q. You could not give us that in percentage? A. No, I could not give you the percentage, because it varies in different localities, so that in a locality like Jersey City the percentage could not apply, on account of the number of large users here that would affect any percentage calculation.

Q. Do you mean there are large users here not on meter basis now? A. No; they are on a meter basis, so that applying the meter to the rest of the users you could not use the same percentage.

Q. But you could, as affecting the domestic consumers? A. If you had any way of segregating the amount of water used by the consumers, to classify the users in Jersey City, you would have two classes; you would have the railroads and the large users of water in one class, and the domestic consumers in the other class. Now, the large users and the railroads are all on meter at the present time, and this percentage could only apply to the second class or domestic users.

Q. Your second class of domestic users not on

meter would be a large percentage of the total? A. Of the total people, you mean?

Q. Of the City, yes. A. Yes; you might assume that half of the water here is used by the small consumers and the other half by the railroads and the other large users, and then you would apply your percentage to that half.

Q. And that would make it one-fourth of that? A. Maybe half.

Q. If half of the domestic users are on meter and one-half of the domestic users are not on meter? A. Yes.

Q. That would be one-fourth of the whole not metered. A. Yes, it would be one-fourth of the supply, under those conditions, that would not be metered, yes.

Q. And one-fourth of fifty million gallons would be twelve and a half million gallons? A. Yes.

Q. Wouldn't that in all probability result in a saving to the city of at least over five hundred thousand gallons per day? A. Well, I should think probably that it would.

Q. Mr. Potts, what is the maximum amount that Jersey City claims the right to divert from the Rockaway River? A. Seventy million gallons per day.

Q. Seventy million gallons per day? A. Yes.

Q. At the time that Jersey City started to divert water under its contract what was the amount that was being then diverted? A. Well, something under forty million gallons.

Q. And that was in what year? A. 1908 or 1909.

Q. In 1908 or 1909? A. Yes.

Q. So that after a period of ten years Jersey City has not yet reached its maximum consumption? A. Not of its diversion rights.

Q. Not of its diversion rights. A. But it has reached and passed the maximum consumption for which the Boonton Reservoir was built.

Q. Is that due to the construction of the Boonton Reservoir or to the pipe line being inadequate to supply Jersey City? A. Well, it is due to both. You see, the Boonton Reservoir was built with the idea of holding back enough of the flow water in the Spring to tide the city over during the dry period, and it was calculated on an average use of fifty million gallons of water per day, so that at the end of the dry season, or dry cycle of years, the city would just deplete the Boonton Reservoir before it was replenished again by the Spring rains; and the pipe line was built with the idea of carrying that much water into the city, with the exception of the concrete conduits; the concrete conduits were built with a capacity of seventy million gallons per day, so that when the City uses the steel lines, the pipe line, the City will then have a carrying capacity of seventy million gallons a day, and by providing additional storage on the Rockaway River the City can bring this average storage facility up to seventy million gallons per day, and then they would be on the basis for which they purchased diversion rights. Now, the City just now is taking bids, or at least they are advertising for bids at the present time; we were to receive those on the 28th of this month, for the furnishing of steel lines, which would bring this water into the City, carrying up to seventy million

gallons per day, and then she is forced to provide additional storage.

Q. To what extent has Jersey City ever been compelled to draw upon their storage capacity during any dry season? A. Last December she depleted her storage capacity there by about sixty per cent.

Q. By about sixty per cent.? A. Yes.

Q. Supposing that her storage was depleted again to an extent of sixty per cent., and assuming that Wharton had the right to divert five hundred thousand gallons daily, what would be the effect of that? A. It would cause a further depletion.

Q. Just a further depletion? A. Yes.

Q. Would you say that such further depletion would be likely to produce unsanitary conditions, if it happened? A. If it happened to be at a time when the reservoir was depleted I would say that it would.

Q. Assuming that it were depleted. A. Yes; that is, if the reservoir was drawn on during a cycle of dry years, as the contractors have calculated that it would.

Q. I am assuming now that Jersey City's depletion of her storage resources would be sixty per cent. A. Well——

Q. In other words, I am taking the maximum depletion. A. That we have had so far.

Q. That you have had so far. A. Last December.

Q. Would an additional taking of five hundred thousand gallons a day be apt to cause unsanitary conditions? A. I don't think it would have last December.

Q. You don't think it would have last December? A. No; I doubt if it would then; but of course last December was not under the worst conditions that we will get by any means.

Q. Then you are assuming that future conditions may arise that will be worse than what they were in December? A. Yes, I am assuming that worse conditions will come.

Q. Yet the actual fact is that it has never been less than that, in other words, sixty per cent. has been your maximum depletion to date? A. Yes.

Q. Would you say that if such conditions were again brought about that the taking of the maximum consumption by Wharton would injure or interfere with Jersey City's water supply? A. Why, I think it will, yes; I think that this diversion by Wharton will injure and interfere with the operation of Jersey City's water plant.

Q. What do you mean by injuring and interfering? A. I mean that it will upset the whole scheme of Jersey City's water supply.

Q. And only to that extent, of upsetting the scheme? A. It will upset the scheme of water supply which Jersey City has devised for herself by the amount of whatever the diversion is.

Q. Coming down to the question of injury, it would not deprive Jersey City of anything; it would not work any hardship to Jersey City or its inhabitants? A. What—this diversion?

Q. As far as it works out practically. A. Well, it might.

Q. Only theoretically, that it does injury to Jersey City? A. I don't think you could say that was theoretical.

Q. In other words, no one would go thirsty on account of our diverting water up there. You see what I mean. This is not a theory, so far as its working out in practice is concerned. Relying on what you say being true, there would be no hardship to Jersey City; they would not have to go thirsty for the want of water, would they? A. Unless they got additional works prepared to anticipate this diversion by Wharton they would be up against it.

Q. I know, but that does not apply, because for every injury you have got to make reparation; but as far as the plan working out practically is concerned, it does not hurt Jersey City one bit, does it? A. Jersey City is faced right now with an additional expenditure for an additional water supply.

Q. How much could that be charged to Wharton if we diverted twenty thousand gallons per day? A. Well——

Q. It would not injure Jersey City in any practical way if Wharton were to take twenty thousand gallons per day. A. I don't agree with you. Jersey City will be injured by the condition itself.

Q. Theoretically; I mean so far as depriving anybody from drinking water or any manufacturer from the use of it; there would not be any hardship or damage to Jersey City? A. Of course, the way it works out in the City is this: When they haven't got water enough coming down from Boonton the pressure drops off and the people in the lower parts will get water and the people up above get no water when the pressure drops, so the result is that the people up there, while they do not die of thirst, and if they are

thirsty they can get the water, there is no doubt about that, they don't get the pressure. I don't suppose anybody will die of thirst in Jersey City.

Q. You are testifying more from the theoretical effect of this than you are from the practical effect upon Jersey City? A. I don't see how you can separate theory and practice in a game like this, because the whole scheme of Jersey City's water supply is built up on the practice in developing her water supply. Now, of course, if you obstruct the general practice in designing water supplies—you may call that theoretical—then your whole scheme falls down.

Q. Where you have such a large volume of water to draw from, the diverting of a small amount like five hundred thousand gallons, as compared to the whole, is almost infinitesimal in its effect? A. Well, it is and it is not. Sometimes, you know, it is the last straw that breaks the camel's back, you know.

Q. I know; that is theoretical again. Practically, I mean; the way it works out in Jersey City, it would have no real effect upon Jersey City, as a city, or the populace of Jersey City? A. Well, all I can say is that Jersey City is taking fifty million gallons a day, and if you want to take five hundred thousand gallons a day away from it, you are going to take one per cent. and she will be injured one per cent. in her water supply. Theoretically one per cent. is small, but the injury is there just the same.

Q. You say fifty-two million gallons is your maximum use per day? A. Well, that is about the most that can go through the pipe line.

Q. What is the minimum? A. Not much less than that.

Q. How much? A. I don't know; I haven't the figures with me, but I should think the average consumption was fifty million, anyhow.

Q. Only two millions variation? A. There isn't much variation. As a matter of fact, Jersey City has had to buy water.

Q. They have a storage supply here in Jersey City? A. Yes, a small storage.

Q. Not a large one? A. Not a large storage. Jersey City is virtually dependent on the pipe line to Boonton for its supply.

Re-Direct Examination by Mr. Brogan:

Q. Mr. Potts, if I understand your testimony then, the reservoir that Jersey City owns at Boonton is calculated to produce a supply of about fifty million gallons a day, is that the fact? A. It is calculated to produce fifty million gallons.

Q. And that means, therefore, that the carrying pipe, when we get fifty million gallons a day, it is taxed to its utmost, does it? A. Yes.

Q. In other words, you cannot put any more through it? A. No; but by raising the water level in the gatehouse at Boonton one or two feet they are able to force through the conduits a trifle more water than they were calculated to carry, and I think two million gallons would represent that excess capacity.

Q. And while Jersey City, in the past year, has been getting these fifty-two million gallons a day, was the City ever in a position where it had to get additional water from outside concerns? A.

Yes, the City has had to buy water outside.

Q. To what extent? A. Three or four million gallons a day some days.

Q. And it has gone as high as ten or twelve? A. It has gone as high as ten a year ago this Spring.

Q. Now, if Wharton should build this storage plant and store up the water at flood times, that would be sufficient to make Wharton independent, would it not, of this supply that they make application for? A. If Wharton can build a storage reservoir to take care of that they would have ample water without any interference with the dry-weather flow of the Rockaway River.

It is stipulated by and between counsel for the Prosecutor and Respondent in Certiorari, the Borough of Wharton, that a sketch prepared by Mr. Potts, of the history of Jersey City's water supply from the Rockaway River, shall be printed and submitted as part of the case of the Prosecutor in Certiorari, subject to objection by counsel for Defendant in Certiorari, the Borough of Wharton, as to its being immaterial and irrelevant and having no bearing on the case.

I do certify that the foregoing depositions were taken before me by Harry Shirmer, a stenographer selected by me and sworn, and I believe they fairly and accurately state the testimony so given.

THEODORE RURODE,
Supreme Court Examiner.

Statement Relating to Water Supply of Jersey City.

By Clyde Potts.

The Jersey City municipal water works dates back to the early fifties; the original plant being installed at that time. The original supply was secured from the Passaic River at Belleville; the water was pumped from there into Jersey City through lines laid across the meadows. The original line was a 20-inch Scotch-iron line which was outgrown and later supplemented with a new sheet iron line, which was protected with a cover of brick work. This also was outgrown and in the late seventies was replaced by a 48 inch cast iron line.

In 1892 it became apparent to the officials of Jersey City that they could no longer rely upon the Passaic River as a source of water supply. It was becoming badly polluted by the sewage discharges from Paterson, Passaic and the surrounding towns, and it was clearly evident to all that Jersey City was being driven out of the Passaic River by this heavy pollution. The City of Newark which also took a water supply from the Passaic River at Belleville had arranged for a new supply in the hills of northern New Jersey and had taken the Pequannoc River as a new source. Therefore, in the latter part of 1892 the City advertised for a new supply. The advertisement and several succeeding ones met with the usual complications, legal and physical that beset a large undertaking, and the City was unable until February 28th, 1899, to let a contract for a new water supply. On that date they accepted and entered into a contract with Patrick H. Flynn for the construction of the

present Boonton supply. An attempt was even made to certiorari this contract with Flynn and it was not until August 30th, 1899, that the Supreme Court denied the writ.

The Flynn contract covered the construction of a water supply which was offered by him in answer to a general advertisement by the City calling on contractors to provide a source, furnish their own plans and construct the works, and secure diversion rights from Riparian owners below the proposed source for a maximum diversion of seventy million gallons per day. In his proposal to the City, Flynn chose a point on the Rockaway River below Boonton in Morris County as his proposed source of supply. His plan called for the erection of a dam on the Rockaway River at this point capable of holding back or storing 7,190,000,000 gallons of water per day and a pipe line running from this dam into Summit Avenue, Jersey City consisting of alternate sections of riveted steel pipe and concrete conduits. The 72-inch riveted steel pipe spanned valleys and rivers and had a carrying capacity of 50 million gallons per day. The concrete conduits were 8½ feet in diameter and ran along the contour of the ground, and had a carrying capacity of 70 million gallons per day. Provision was left in the way of stubs so that the steel portions of the line could be duplicated, bringing the capacity of the pipe line up to 70 million gallons per day. The dam at Boonton was designed to hold back sufficient flood waters so that the water stored together with the dry weather flow of the Rockaway River would yield

the City an average supply during the driest years of just 50 million gallons per day. The pipe line was designed to transport that amount to the City. Provision was also made in the plans for raising the dam at Boonton eighteen feet, giving storage facilities sufficient to yield the City 70 million gallons per day. When the time arrived that it would be necessary to raise the dam it was anticipated that the steel pipe line would also be duplicated, bringing the carrying capacity of the pipe line also to 70 million gallons per day. The dam at Boonton which was constructed by Flynn is built at or near the site of an old mill and in constructing the dam Flynn purchased this old mill and all of the property which is now flooded by the Boonton Reservoir, aggregating more than 600 acres, and included in the purchase was the Morris County Poor Farm. It was necessary to secure the abandonment of a number of public highways which have since been flooded, but these were in most cases replaced by good roads.

Flynn arranged for obtaining water rights of all the parties owning or claiming substantial rights in the Passaic water sheds as against the Rockaway River. This settlement included the rights of the Morris Canal and Banking Company and its lessee, the Lehigh Valley Railroad Company; the Society for Establishing Useful Manufacturers at Paterson; the East Jersey Water Company; the Dundee Power and Land Company, and other associate companies and others. On the immediate Rockaway River itself Flynn bought all of the mill rights between the

proposed location of the Boonton Dam and the Passaic River, and in addition thereto purchased from the farmers and land owners bordering on the Rockaway River, the right to divert 70 million gallons of water daily from the river.

Patrick H. Flynn was to construct this supply and turn it over to the City with all water rights, construction work, and etc., for the sum of $7,595,000.

On November 15th, 1904, the contractor notified the City that the new waterworks was completed and in use and ready for the City to purchase. As a matter of fact Jersey City had been receiving its supply through the new waterworks since May 24th, 1904, under a provision of the contract with Flynn whereby he was to furnish water to the City through the new works at a price per million gallons, pending the acceptance of the plant by the City. Following the notice of November 15th that the plant was completed and ready for the City to accept, there was a long delay and considerable litigation between the City and the contractor as to the fulfillment of the contract. This litigation came up in the Chancery Court before Vice-Chancellor Stevens and consumed several years, the title of the case being: "The Mayor and Aldermen of Jersey City vs. Patrick H. Flynn and the Jersey City Water Supply Company, on Bill for Relief." The testimony took up twelve volumes and comprised nearly 7,000 printed pages. As a result of the litigation the City took over the waterworks from the contractor on October 11th, 1911, together with all rights accruing under the con-

tract. When the City first began to use water through the new waterworks in 1904, the daily consumption or draft on the new waterworks was at the rate of 33 million gallons. This has steadily increased up to the present time when the draft on the new waterworks is now exceeding 50 million gallons per day, or in excess of the capacity of the works as constructed by Flynn.

The City now has under advertisement contracts for increasing the capacity of the work to the maximum for which it was planned, namely, 70 million gallons per day. These plans call for the construction of the duplicate steel pipe line which will provide a carrying capacity for 70 million gallons per day, and ultimately for increased storage in the Rockaway River to augment the flow of the river, which will provide an average supply of 70 million gallons per day.

Exhibit A

WHARTON APPLICATION—PERMIT

CONDITIONS.

1. The Borough of Wharton shall pay to the State such annual charge for the diversion of water as is now made or may hereafter be required by law. Said borough shall keep accurate records by meter or other approved method of the amount of water used and shall report same quarter-yearly to this Board, as provided by law.

2. The amount of water which shall be diverted from the proposed source under this approval, shall not exceed an average of 500,000 gallons per diem during any month.

3. Whenever it shall become necessary for Jersey City to provide additional storage on the Rockaway watershed, the Borough of Wharton shall be obligated to contribute to the cost thereof such sum as this Board may then determine to be equitable, or in lieu thereof shall provide on its own account such storage for its own supply as this Board may then order.

4. If it shall be established to the satisfaction of this Board that in consequence of the operations under this approval, Jersey City is compelled to purchase additional water to meet its needs, the Borough of Wharton, as ordered by this Board, shall reimburse the City of Jersey City for the water so purchased, to an amount not to exceed that being diverted by the Borough of Wharton.

5. If the Borough of Wharton shall at any time abandon this source of supply, all rights and privileges conveyed by this approval shall revert to the State, it being distinctly understood and agreed that the permission herein contained to divert water is given to the Borough of Wharton alone, and shall not be assigned or set over to any corporation or person without first obtaining the consent of this Board.

6. The applicant shall in good faith begin the construction of the work necessary to utilize the proposed source of supply within one year from date of this approval and shall complete the same within three years.

7. This approval shall not become operative unless such applicant or its duly authorized representative shall have filed with this Board

within ninety days from date hereof its written agreement accepting the terms and conditions hereby imposed.

8. In the event that any of the conditions hereby imposed are violated and such violation shall be established to the satisfaction of this Board, this approval may thereby be abrogated, upon the passage by this Board of a resolution to that effect.

NEW JERSEY SUPREME COURT

MICHAEL I. FAGEN, Director of the Department of Streets and Public Improvements of the City of Jersey City, *Prosecutor*, vs. The MAYOR and COMMON COUNCIL of the Borough of Wharton, et al. *Defendants.*	On Certiorari.

Argued June Term 1919 before Justices Trenchard, Bergen and Kalisch.

Thomas J. Brogan, for prosecutor.

David F. Barkman, for Borough of Wharton.

Thomas F. McCran, Attorney General, for Department of Conservation and Development.

Per Curiam.

The Borough of Wharton, desiring a better water supply, applied to the North Jersey District Commissioners for a permit to divert water from the Rockaway River, upon which it took no action. It then applied to the State Board of Conservation, which granted a permit upon conditions (a) that it pay the State what may be required by law, (b) diversion not to exceed 500,000 gallons a month, (c) to contribute to Jersey City the proportion of the cost of ad-

ditional storage it may require, to be determined by the board.

This writ was allowed to review the order of the State Board. It is conceded that the Board had the power to grant the permit, unless prohibited by Section 18 of the Act of 1916, P. L. 139, which provides that it shall be unlawful for any municipality to obtain a new or additional supply, "from any watershed other than the watershed or watersheds from which said municipality obtains its existing water supply, without the consent of said district water supply commission."

The evidence shows that this application is for water from the present watershed, but aside from this we think the limitation must be read in connection with the entire act, which has reference to granting permission to any municipality, and the prohibition was not intended to deprive the State Board of its special oversight and powers in all cases. If it be otherwise, then the State Board is powerless to oversee the acts of the district board.

We also think the evidence shows that there is a public necessity for the new supply.

The diversion is not an interference with the riparian rights of Jersey City. That city has no riparian rights in the flow of water for merchandising purposes. The writ will be dismissed with costs.

Endorsed:

No. 239 June Term 1919

NEW JERSEY SUPREME COURT

MICHAEL I. FAGEN, Director of the Department of Streets and Public Improvements of the City of Jersey City,

Prosecutor,

VS.

The MAYOR and COMMON COUNCIL of the Borough of Wharton, et al.,

Defendants.

Per Curiam.

Filed October 14, 1919.

ENOCH L. JOHNSON, *Clerk.*

Rule for Judgment

Filed October 24, 1919

NEW JERSEY SUPREME COURT

MICHAEL I. FAGAN, Director of Department of Streets and Public Improvements of the City of Jersey City, *Prosecutor,* vs. MAYOR and COMMON COUNCIL of the Borough of Wharton and the DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NEW JERSEY AND THE NORTH JERSEY WATER SUPPLY DISTRICT, *Respondents.*	On Certiorari. Rule for Judgment

The Court having inspected the transcript and proceedings of the Board of Conservation and Development of the State of New Jersey, and of the North Jersey Water Supply District of the State of New Jersey, returned with the certiorari in this cause, the reasons for reversing the judgment or order made in this cause by the Department of Conservation and Development of the State of New Jersey, and heard the arguments of counsel therein, and having duly considered the same, do order that the judgment or order of the said Department of Conservation and Development of the State of New Jersey be

in all things affirmed, and the writ of certiorari be dismissed, with costs.

On motion of David F. Barkman, Attorney for the Mayor and Common Council of the Borough of Wharton and Thomas H. McCran, Attorney General of the State of New Jersey.

Endorsed:

NEW JERSEY SUPREME COURT.

MICHAEL I. FAGEN, Director of Department of Streets and Public Improvements of the City of Jersey City,

Prosecutor,

vs.

MAYOR and COMMON COUNCIL of the Borough of Wharton, et als.,

Respondents.

ON CERTIORARI.

RULE FOR JUDGMENT

DAVID F. BARKMAN,
Counselor-at-Law,
Morristown, N. J.

New Jersey Court of Errors and Appeals

MICHAEL I. FAGEN, Director of the Department of Streets and Public Improvements of the City of Jersey City,
Prosecutor,

VS

THE MAYOR AND COMMON COUNCIL OF THE BOROUGH OF WHARTON, THE DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NEW JERSEY WATER SUPPLY DISTRICT,
Respondent.

On Certiorari

Brief for Respondent, Borough of Wharton

THE FACTS

The Borough of Wharton, having to consider the need of its inhabitants for a supply of water for potable and fire uses, determined to investigate the available sources of supply.

Several years ago these investigations were made by Alexander Potter, C. E., and a report made to the Borough. The most available source for the necessities of the Borough is the Rockaway River and it was proposed to take from the Rockaway River, at the junction of Stevens Brook with said river, water for the purposes heretofore mentioned.

All the other plans called for such large expenditures of money that they were above the reach of a small borough like Wharton with its limited taxable property.

One plan would have necessitated the moving of a railroad, the building of large dams and expensive engineering work. Altogether out of the question for

the potable supply of water to a small place such as Wharton with an average population of perhaps three thousand persons.

After deciding upon a plan, a petition was made to the North Jersey District Water Supply Commission, assuming, but not admitting, that the said North Jersey Water Supply Commission might have some control or jurisdiction in the diversion over the waters of this particular place. The North Jersey District Water Supply Commission, although having had hearings upon the matter and having been supplied with information such as they desired, consistently refused to take any action.

This application was received on March 27, 1918, (P. C. 43); on April 2, 1918, the matter was again before them for hearing which was adjourned to April 16, 1918; on May 3rd again the matter was brought up and on November 12, 1918, a joint hearing was held before the New Jersey District Water Supply Commission and the Department of Conservation and Development (P. C. 44). The matters are set forth from page forty-three to page forty-nine of the printed case and it is evident that the New Jersey District Water Supply Commission deliberately failed to meet the issue and decide the question before it. The reason is not apparent as simple justice would clearly require that a question of this importance to the Borough of Wharton and to Jersey City should not be left undecided by a body having judicial authority over questions of this kind unless the said commission had decided that it had no jurisdiction over the question at issue.

The Borough of Wharton felt it incumbent to take all necessary procedure to secure all consents necessary for the diversion of the waters of this State. It, therefore, made its application in due form to the Department of Conservation and Development of the State of New Jersey, successors to the State Water Supply Commission.

Both of these applications set forth the present

water supply of the Borough of Wharton and the table (P. C. page 36, exhibit 7) shows the present plant and (P. C. page 37, exhibit 7) shows what would be necessary if the whole Borough were supplied. The plans call for a maximum diversion not exceeding 500,000 gallons of water per day. The present population of the Borough can be served by 36,000 feet of pipe line (P. C. 89 line 40 of Mr. Potter's testimony). The present diversion is from fifteen to twenty thousand gallons per day at maximum (page 62 of Mr. Potter's testimony).

Jersey City objects to this small diversion of water and has endeavored to make a mountain out of this mole hill and prevent the governing body of the Borough of Wharton from performing its duty to its inhabitants in securing a supply of water sufficient for its general purposes.

It would be years before Wharton would be diverting anything like 500,000 gallons, although in the brief for Jersey City 500,000 gallons is the amount stated as being diverted instead of what is actually diverted, namely 15,000 gallons, at present.

Both of the water supplies in question are within the watershed of the Rockaway River and it is not conceded, as is set forth in Jersey City's brief, "That the application for the Borough of Wharton has relation to a watershed other than that from which Wharton now obtains its supply." (Page 8 of brief.) On the contrary the additional water supply is within the same watershed as will be more fully set forth in this brief.

The result of the hearing before the Department of Conservation and Development is the approval for the Borough of Wharton, as set forth in exhibit five, page 30 of the printed case and not as printed on page 140.

Jersey City attacked this approval by Certiorari proceedings before the Supreme Court of this State and the present appeal is from the decision of the Supreme Court, upholding the approval of said board.

The principal grounds upon which Jersey City seeks

to reverse the order of the Board of Conservation and Development are as follows:

(a) Lack of Jurisdiction of the said Department of Conservation and Development of the State of New Jersey to give such approval, (reasons one and two).

(b) Illegality of such permit because at variance of State's policy relating to the development of natural resources, (reasons three and four).

(c) Unlawfulness of such permit as set forth in reasons five, six and seven.

(d) Because such permit is not conducive to the conservation of the natural resources of the State, (reason 8).

POINT I

NOT NECESSARY TO HAVE CONSENT OF THE NORTH JERSEY SUPPLY COMMISSION FOR DIVERSION OF WATER, AS THE RIGHT TO GRANT DIVERSION IS VESTED IN THE DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NEW JERSEY.

ARGUMENT

The State Water Supply Commission was created by the statute laws of 1907, page 633, which requires that municipalities diverting water shall first obtain its permission so to do upon certain procedure outlined in said act.

In 1915 the Department of Conservation and Development was created to take charge of certain other departments or commissions of the State of New Jersey, including the department of the Water Supply Commission (chapter 241, page 426, laws 1915). By section 16 the act did not take effect so far as the State Water Supply Commission was concerned, until the 30th day of June, 1916. The State of New Jersey created by Chapter 71 of the laws of 1916, provision for establishing the New Jersey Water Supply Districts. This act took effect March 16, 1916, and before

the act of 1915 giving to the Department of Conservation and Development powers exercised by the State Water Supply Commission. It would, therefore, seem that while the act of 1916 is later than the act of 1915, yet in its operation the law of 1915 is the latest law upon the subject and the powers of the State Water Supply Commission are now vested in that body and have never been vested in the North Jersey District Water Supply Commission. However, this may be, it is not necessary to decide that question as it is quite evident from inspection of the Law of 1916, creating said commission that the Legislature did not intend to take from the State Water Supply Commission or its successors, the Department of Conservation and Development, the control of the waters of this State for potable purposes.

The North Jersey District Water Supply Commission has been called into being, I assume, in a legal manner, and is now a body corporate exercising the functions imposed upon it by the Legislature, having only such power as given it by the State.

If it were not for the Fourth Paragraph of Section 18 of this act there would be no difficulty in the solution of the present case.

The only authority given to the North Jersey Water Commission for requesting the Borough of Wharton to apply to them for the right to divert water is contained in the following paragraph:

> "Wherever any district commission has been brought into being by virtue of this act, it shall be unlawful for any municipality within the water supply district represented by said commission to obtain any new or additional water supply from any watershed other than the watershed or watersheds from which said municipality obtains its existing supply, without the consent of the said district water supply Commission." (P. L. 1916, Chap. 71.)

This is a mere naked power and does not authorize the North Jersey District Water Commission of im-

posing any conditions, regulations, etc., in the consent so to be granted.

This would imply that the State Board of Conservation and development was not relieved of its power of supervision over the water supply of this State.

Giving this paragraph its broadest interpretation, Wharton does not come under its requirements because Wharton seeks an additional supply of water in the same watershed from which it is now getting its water and therefore does not come within the prohibition of said paragraph.

Wharton's water supply at present and the proposed additional water supply are both within the watershed of the Rockaway River, the supply for Jersey City.

I refer to the testimony of Mr. Clyde Potts, engineer for Jersey City, as set forth in the printed case on page 114, as follows:

"Q. Are you familiar with the locality at which Wharton proposes to divert, under its petition, five hundred thousand gallons of water per day? A. I am; yes sir.

Q. Where is that point? A. It is in the valley of the Rockaway River, just above the railroad bridge of the Central Railroad; it is right near the line between the Township and the Borough, on the Rockaway River, and it is from the main stream of the Rockaway River.

Q. And that point is higher up on the stream than Jersey City's intake, is it? A. Yes, it is about fourteen miles above the point where Jersey City takes water.

Q. Jersey City then is the lower Riparian owner? A. Yes, sir.

Q. Where does Wharton now get its water supply from? A. It gets its water supply now from a small brook that runs down through the valley and empties in the Rockaway River.

Q. What is the name of that brook? A. Mr. Potter calls it Spring Brook. I suppose that is what it is known locally as.

Q. Do you know the location of Spring Brook? A. Well, just generally, that it is in the Borough of Wharton and is a small collecting area in there above Wharton and in Wharton.

Q. That brook itself is no part of the Rockaway River? A. Yes, that is a tributary of the Rockaway River, Spring Brook is.

Q. But it is not part of what is known as the Rockaway River watershed? A. Yes, it is part of the Rockaway watershed; it is a small part of the Rockaway watershed."

This being a fact the appeal should be dismissed.

POINT II

WHARTON IS IN NEED OF A SUFFICIENT WATER SUPPLY FOR ITS INHABITANTS AND FOR FIRE PURPOSES.

The necessity for a larger supply of water is self-evident when it is considered that only a portion of the Borough is being supplied. An examination of exhibit seven will show this and also Mr. Potter's testimony on pages 55 to 59. This question is also a serious one for the Borough. The system is further described by Mr. Potter on page 62 of his testimony. He also states his reasons for advocating the Rockaway River as a water supply. (P. C. page 64), and his plan is further elaborated on pages 66 and 67-68. Shortly, this calls for a pipe line of 36,750 feet as compared to 19,000 feet which are now in use. Practically two-thirds of the Borough are not being served with water or fire protection. Certainly there is no community as large as this without some protection and service. The necessity is not a theoretical one but a very practical one and one to which relief should be given as quickly as possible.

On the other hand Jersey City seeks to prevent the Borough of Wharton from using the potable waters of this State except at prohibitive cost to Wharton and the saving of Jersey City of any inconvenience.

Contrasting the two situations, right and justice are overwhelmingly upon the side of Wharton. Only one-third of Wharton is served with water while all of Jersey City is completely accommodated.

Jersey City is not using the most economical method for serving its water. A large portion of the water now taken to Jersey City could be more economically used, a duty which the city owes to the State if it intends to conform to the policy of conservation of water which the State has inaugurated.

Mr. Pott's testimony on pages 125, 126 and 127 clearly sets forth these facts and the further fact that by using an up-to-date metered system 500,000 gallons of water a day could be saved. (P. C. page 127, lines twenty to thirty).

It is further shown by the testimony that lack of water in Jersey City is somewhat attributable to the fact that the pipe is not large enough to carry it and that it is proposed that a parallel pipe be constructed so that the proper amount of water may be brought to Jersey City, and also that water is being sold to railroads, etc.

Nowhere in the testimony does it appear that the storage water in the reservoir at Boonton has been depleted beyond the safety point both as to health and to the quantity reserved.

Mr. Pott's testimony is entirely based on the fact that 500,000 gallons will be diverted (P. C. page 132) while as a matter of fact only a small fraction of that amount will be used for years and would deplete the reservoir very little if any.

Mr. Critchlow says in his testimony that the lowest depletion of the reservoir was in 1914 when it was 13 feet below the spillway, (P. C. page 95) and that the percentage of diversion of water above the proposed intake, will be about 13 per cent. of the minimum flow and that an unsanitary condition in the dry season will not arise from the diversion of the full 500,000 gallons. (P. C. pages 96-97).

This is, without taking into consideration the fact that a great deal of the water would be returned to the Rockaway River. Mr. Potter thinks 90 per cent. (C. P. 71). Mr. Potts will not commit himself to percentages. Mr. Critchlow, however, says that a great deal of the water will go back to the Rockaway River and that it would be practically purified water. (P. C. pages 97-98).

But the answer to any injury that Jersey City may have upon the approval to divert this water is found in the official approval and I call the Court's attention to sections three, four and five of said approval. (P. C. 30).

The Borough of Wharton can not possibly injure Jersey City under the terms of the approval.

POINT III

JERSEY CITY HAS NO PRIOR RIGHT OVER OTHER MUNICIPALITIES FOR THE DIVERSION OF WATER IN THE ROCKAWAY RIVER WATERSHED.

Jersey City has no right to the use of the water as merchandise, that is, a thing that may be bought and sold for a profit nor as a Riparian owner has it any right to use water as merchandise. (61 Atl. R. 710, McCarter vs. Hudson County Water Company) 70 N. J. Equity, 525, (65 A. R. 489). As far as the two municipalities are concerned they are both on the same basis, namely, using water from the State by its permission for the supply of potable water for their inhabitants.

Jersey City has not acquired any more rights for this purpose than has the Borough of Wharton or the general public by reason of the ownership in the said watershed of a water collecting plant or water works.

A somewhat similar claim was made by Jersey City in Simmons vs. Paterson, 60 Equity, page 385, note 4. As a Riparian owner of land along a private stream it does not secure the right to divert water for its inhabitants. Ingersol vs. Newton, 60 Equity, page 399,

note 2. In other words Jersey City is diverting the water of this potable stream, not because it owns a water plant or a water works or a water shed or an impounding reservoir upon the stream but because the State suffers the diversion of this water for the use of the inhabitants of Jersey City, reserving the right, however, to treat any other municipality on an equality with Jersey City, in allowing it to divert water from this same stream or watershed. This is all that the consent allows Wharton to do and the reasonableness of that consent is clearly justified by the testimony taken in this case, and therefore cannot be reviewed on appeal. Collingswood v. State Water Supply Comm. 85 A. 673.

POINT IV

THE APPROVAL OF WHARTON'S APPLICATION FOR DIVERSION OF WATER IS IN ACCORDANCE WITH THE POLICY OF THE STATE IN RELATION TO THE CONSERVATION OF THE WATERS OF THE STATE.

The powers of the State Water Supply Commission are set forth in Compiled Statutes, page 5797, by an act entitled "An Act to Establish a State Water Supply Commission, and to Define Its Powers and Duties, and the Conditions under which waters of this State may be diverted."

The powers of the State Water Supply Commission are now vested in the Department of Conservation and Development. The State assumes control of the waters of this State and the right to control its diversion as a right belonging absolutely to the State and the State only.

In 65 Atl. page 495, N. J. Equity 70, 525, owner ship of water was set forth very clearly. "The common law recognizes no right of private ownership therein (natural streams) except to limit the extent by riparian owners and seems to exercise all right of private ownership by all riparian owners, still leaves the stream to remain as a running stream and remains a residuum of common or public ownership that, under our system, rests in the State as a trustee for all the

people."

Also 65 Atl. page 497, near the bottom of the page you find as follows: "so far from sanctioning any general commerce in waters, the legislative policy has been, and is, to preserve and administer our water rights for the benefit of our own people, to whom by right of proximity and sovereignty, they naturally belong."

This point is also emphasized in the case of The Mayor and City of Paterson vs. The East Jersey Water Company, 74 Equity, 49; 70 Atl. page 486, the Court saying in reference to the claim made by riparian owners for absolute ownership in water as follows: "this claim, if sustained, placed the riparian owners right of permanent diversion for sale upon the same basis as its rights to use the flow for extraordinary purposes upon or in connection with the riparian lands, namely manufacturing, irrigation and the like."

"The Court of Errors and Appeals denied such natural and absolute right of the riparian owners to acquire ownership as property of the waters or the running streams for the purpose of sale and held that the decision mainly relied on to establish such right—Cobb vs. Davenport, 32 N. J. Law, 369 (1867)—did not support the contention."

The case in the Supreme Judicial Court of Maine, decided June 6, 1919, apparently follows doctrines laid down in the case above cited.

This case was reported in 107 Atl. page 865, and on page 867 the court says "* * * it must now be accepted as the common law doctrine in Maine that the State holds these ponds (fresh water ponds) in trust for the uses of the people of the State, together with the right to control and regulate the waters thereof."

So it is readily seen that it is, perhaps, the general doctrine throughout the country that flowing water can not become the property for commerce by anyone.

No municipality, by reason of large investments, secures any more right to the water itself than another

municipality with a smaller investment. The policy of the State is admirably set forth in the Borough of Collingswood versus the State Water Supply Commission, 86 A. R. page 660, 84 Law, page 104, the decision being written by Justice Parker. aff. 90 at. 777. 85 L. 673.

In that decision the Justice writes "a survey" of the jurisdiction of the State of its waters both surface and subsurface and the manner in which that jurisdiction has been exercised and the State policy inferable from such exercise." He quotes (p. 662) with approval from the decision of Justice Holmes of the United States Supreme Court (209 U. S. 349, 356; 28 Sup. Ct. 529, 531; 52, L. Ed. 828, 14 Ann. cases, 560).

> "It appears to us that few public interests are more obvious, indisputable, and independent of particular theory than the interest of the public of a State to maintain the rivers that are wholly within it substantially undiminished, except by such draughts upon them as the guardian of the public welfare may permit for the purpose of turning them to a more perfect use. This public interest is omnipresent wherever there is a State and grows more pressing as population grows. It is fundamental, and we are of opinion that the private property of Riparian proprietors cannot be supposed to have deeper roots." Similar views are to be found in Paterson vs. East Jersey Water Co., 74 N. J. Equity, 49, 70 Atl. 472, affirmed 77 N. J. Eq. 588, 78 Atl. 1134, and Wilson, Attorney General, vs. Same., 78 N. J. Eq. 329, 79 Atl. 440."

The Justice also sets forth the different enactments relating to this subject and thus sums up:

> "It is quite evident, therefore, that the policy of the State is one of determination to conserve, and, as we view the matter, to economize to the fullest extent that is reasonable, the water resources of the State for the benefit of all its inhabitants. The growing scarcity of water supply is a matter of common knowledge, and a great deal of the fierc-

est litigation in the courts at the present time arises out of disputes over the ownership of water rights. Consequently, in looking at the acts of 1907 and 1910, this policy should be kept in mind, though, indeed, this is hardly necessary in view of the language of those very acts, for the act of 1907, in its very first section, says that the State Water Supply Commission 'shall be charged with a general supervision over all the sources of potable and public water supply, to the end that the same may be economically and prudently developed for the use of the people of the State.' "

It is, therefore, respectfully submitted that the approval in question of the Department of Conservation and Development coincides with the policy of the State as set forth in the above decision.

POINT V

THE DEPARTMENT OF CONSERVATION AND DEVELOPMENT HAS SUPREME AUTHORITY TO GIVE CONSENTS FOR DIVERSION OF WATER AND ATTACH REASONABLE CONDITIONS THERETO.

It seems to be no longer debatable as to which board should give the consent sought for in this case and the contention made heretofore in this brief in Point One that the Board of Conservation and Development has primary jurisdiction is borne out and settled by the case of "Society for Establishing Useful Manufactures vs. Board of Conservation and Development, 101 Atl. page 1025." 904. 469. Aff. 914. 718.

The application in that case was made under section six of the act of 1916, page 131. The grant made by the Board of Conservation and Development was upon the application of the North Jersey District Water Supply Commission for diversion of the waters from the Wanaque River for an additional water supply for Newark and Paterson. The Board of Conservation and Development gave its approval.

By this procedure the North Jersey District Water Supply Commission admitted the right of the Board of Conservation and Development to grant such request and admitted thereby the supreme authority of the Board of Conservation and Development in matters of that kind, namely, diversion of water for potable purposes. The case goes further and decides that not only had they the right to give the naked permission to divert waters but also to attach to the North Jersey Water Supply Commission, conditions of diversion and the only question that might arise regarding these conditions was whether the same were reasonable or not.

Under the authority of that case, the Borough of Wharton not being a municipality lying in the Wanaque River watershed, the grant made in this case to Wharton is legal in all respects.

SUMMARY

THE APPEAL SHOULD BE DISMISSED:

(a) BECAUSE THE PROSECUTOR HAS NOT SUSTAINED ITS REASONS, and

(b) BECAUSE THE APPROVAL IN THE CASE COMPLIES WITH THE REQUIREMENTS OF THE STATUTES AS TO FORM, LEGALITY AND REASONABLENESS.

Respectfully submitted,

DAVID F. BARKMAN,

Attorney for Borough of Wharton.

New Jersey Court of Errors and Appeals

MICHAEL I. FAGEN, Director of the Department of Streets and Public Improvements of the City of Jersey City, *Prosecutor,* VS. THE MAYOR AND COMMON COUNCIL OF THE BOROUGH OF WHARTON, THE DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NEW JERSEY WATER SUPPLY DISTRICT, *Respondent.*	On Certiorari

BRIEF FOR PROSECUTOR

The Facts

This action in certiorari brings for review before the Court of Errors and Appeals the action of the Department of Conservation and Development of the State of New Jersey in issuing a grant or permit to the Borough of Wharton, under which grant or permit the Borough of Wharton is empowered to take an average additional supply of five hundred thousand (500,000) gallons of water per day from the watershed of Jersey City, which is known as the Rockaway River Watershed, in addition to what it now receives from its own water supply, which is known as Spring Brook Watershed. The Borough of Wharton first made application to the North Jer-

sey District Water Supply Commission for a grant or permit to divert water from the Rockaway River, but nowhere in the said petition does the Borough indicate how much water it seeks leave to divert. The North Jersey District Water Supply Commission has not seen fit to grant the application of the Borough of Wharton for an additional supply to be taken in the manner in which Wharton desired to obtain its new or additional water supply, and indeed we find from the return made by the North Jersey District Water Supply Commission (see minutes, State of the Case, pp. 45 and 46) it is apparent that this Commission, while desirous of helping out the Borough of Wharton, did not feel disposed to do immeasurable damage to Jersey City by helping out the Borough of Wharton in the manner in which it desired, but rather it is apparent that this North Jersey District Water Supply Commission desired the Borough of Wharton to help itself by building a storage reservoir to impound the flood waters just as Jersey City has had to do in the past. On p. 45, State of the Case, lines 1 to 21, it is apparent from the letter of the Consulting Engineer of the North Jersey District Water Supply Commission that this Commission had under consideration the proposition of compelling Wharton to help itself by building this storage plant. While the North Jersey District Water Supply Commission had this application pending, we find that on November 12th, 1918, a hearing was held in Newark before the Board of Conservation and Development and the North Jersey District Water Supply Commission as well, and after the hearing, or on January 8th, 1919, the Board of Conservation and Development of this State granted

a permit to Wharton, under certain conditions, which permit is called "Exhibit A," State of Case, p. 136, line 30, pp. 137 and 138. This grant or permit, we contend, is illegal and an unwarranted assumption of jurisdiction by the Department of Conservation and Development.

We call special attention to the statement of Mr. Potts, who was a witness in behalf of the Prosecutor, showing the history of Jersey City's water supply, wherein it appears that the City contracted with and purchased from Patrick H. Flynn, the right to divert an average amount of seventy million (70,000,000) gallons of water per day. It also appears that the City had at this time or shortly thereafter to construct and to since maintain a dam on the Rockaway River capable of storing up seven billion, one hundred and ninety million (7,190,000,000) gallons of water per day at a cost of Seven Million, Five Hundred and Ninety-five Thousand ($7,595,000) Dollars. When the City first began to use the water from this new watershed in 1904, the daily consumption or draught on this new supply averaged thirty-three million (33,000,000) gallons daily, which has been and still is increasing, until at present the City is using in excess of fifty million (50,000,000) gallons per day, which means that this is in excess of the estimated capacity of the dam built upon the Rockaway River. It is also a matter of common knowledge that The Mayor and Aldermen of Jersey City have let a contract for the building of a twin pipe line from the reservoir or dam on the Rockaway River at Boonton, so that it may be in a position to command the use of seventy million (70,000,000) gallons of water per day, which is the estimate of what the City requires for its present needs.

ARGUMENT OF LAW.

Point I.

The Department of Conservation and Development of the State of New Jersey is without jurisdiction.

This Commission called the Department of Conservation and Development, after a hearing, granted this permit, allowing the Borough of Wharton, under certain conditions, to divert a half million (500,000) gallons of water daily from Jersey City's water supply, which permit or grant we contend is unwarranted in the law, and exceeds the jurisdiction of the State Department of Conservation and Development. Chapter 252 of the Laws of 1907 created a State Water Supply Commission and defined its duties and powers, and set forth the conditions under which the waters of the State of New Jersey might be diverted.

Section 2 of that statute, P. L. 907, p. 634, restricts the right of any municipal corporation or corporation proposing to supply the inhabitants of any city with water from acquiring new or additional sources of supply unless its action be approved, after maps, etc., shall have been filed with this Commission created by this statute.

Chapter 241, P. L. 1915, creates the Department of Conservation and Development, and outlines its jurisdiction. Under this act, the State Water Supply Commission, which Commission was created by the statute of 1907, is merged with this new Department, and succeeds to all the powers formerly enjoyed by the State Water Supply Commission, so that up to the passing of the statute, which is known as Chapter 71 of the Laws of 1916, the Department of Conserva-

tion and Development probably had jurisdiction over the question now on review before the Court; but the statute known as Chapter 71 of the Laws of 1916 authorized the appointment of District Boards of Water Supply Commissions and defined the powers, duties, etc., of said Commissions. The North Jersey District Water Supply Commission has been appointed, and has jurisdiction over matters affecting the water supply of the northern half of New Jersey, wherein the territory making up the Rockaway Watershed is located. Paragraph 18 of said Chapter 71 of the Laws of 1916, p. 138, provides the method by which municipalities may acquire water. Line 33 of said section, at p. 139, says:

> "Wherever any district commission has been brought into being by virtue of this act, it shall be unlawful for any municipality within the water supply district represented by said commission to obtain any new or additional water supply from any watershed other than the watershed or watersheds from which said municipality obtains its existing supply, without the consent of said district water supply commission."

This section is entirely applicable to the question under consideration. The North Jersey District Water Supply Commission has jurisdiction in these matters over the location of the water supply, i. e., the Rockaway River Watershed, and also over the Borough of Wharton itself. It is conceded that the application by the Borough of Wharton has relation to a watershed other than that from which Wharton now obtains its sup-

ply, and that therefore the consent of the North Jersey District Water Supply Commission must first be obtained before Wharton can proceed with its proposed project. Whatever jurisdiction the State Board of Conservation and Development ever had it received as a result of the passage of Chapter 252 of the Laws of 1907. The statute, Chapter 71, P. L. 1916, which created the District Water Supply Commission, contains a repealer which may be found in Section 22 of that act at p. 141, which provides that "All acts and parts of acts heretofore passed inconsistent with the terms and provisions of this act, or granting to the State Water Supply Commission or its successors in authority the powers in this act granted to the Boards of District Water Supply Commissions when created as herein provided, are hereby repealed." Now one of the powers granted to the District Water Supply Commission is supervision of the obtaining of new or additional water supply watersheds other than that used by the municipality at the time of the application. These two pieces of legislation are so utterly irreconcilable that it permits of only one conclusion: that the Department of Conservation and Development has no jurisdiction whatever in the premises, and that the sole power to supervise or regulate the construction of any water supply under the circumstances is lodged in the North Jersey District Water Supply Commission.

Point II.

This permit or grant is inconsistent with the State's policy of conservation.

It seems to be clear that the policy of the State operating through these various commissions is to conserve the natural resources of the State. Jersey City, Newark and most municipalities that use large quantities of water have had from time to time at tremendous cost to build storage reservoirs, in order that the flood waters of the wet season and of the winter might be impounded to tide the municipality over the dry season. Jersey City has the right, as above set forth, to a diversion of seventy million (70,000,000) gallons of water per day. If Jersey City, by way of comparison, relied on the policy that the Borough of Wharton relies upon, it could not supply its inhabitants with water except during what is known as the flood season or wet weather, because the dry weather flow of the river is incapable of producing enough water for Jersey City's needs, or anything like that amount. Therefore, Jersey City has had to do what we believe the Borough of Wharton should do at this time—build a storage reservoir so that the flood waters might be impounded. Jersey City, owing to this reservoir, has an investment of Eight Million ($8,000,000) Dollars in this particular project, and the new pipe line will increase this figure close to Eleven Million ($11,000,000) Dollars.

In the State of the Case, p. 80, lines 10 to 25, Mr. McKee, a member of the State Board of Conservation and Development, questioned Mr. Potts, witness for Jersey City:

"Q. What is your total consumption of water in Jersey City?

A. I should say pretty close to sixty million.

Q. Do you get any other supply except from the Dover Reservoir?

A. Yes, they buy from the East Jersey Water Company and also get water from Newark.

Q. Under your present conditions, you haven't enough supply there to give your full supply at Dover?

A. I have not. The present reservoir was built with the idea of supplying Jersey City fifty million (50,000,000) gallons a day. It holds enough flood water when water is plenty in the River to tide them through a drought until it is depleted."

Mr. Critchlow, who I take it is the Engineer of the Borough of Wharton, and who testified before the State Department of Conservation and Development, at p. 94, State of the Case, lines 9 to 20, makes it clear that Wharton's sole reason for seeking this unreasonable permit is a financial one:

"Q. Mr. Critchlow, as an engineer, don't you think that it would be a more efficient and a better solution of this difficulty, if indeed it is a difficulty, for Wharton to build its storage reservoir, and thus in times of plenty when the water is plentiful and would otherwise be going to waste, have this amount conserved for Wharton?

A. Well, from a purely engineering standpoint and as a conservative measure,

leaving out the question of cost, it would probably be a better proposition."

It is apparent in numerous instances in the testimony of Mr. Alexander Potter for the applicant that Wharton is pursuing a selfish policy as well as one that is inconsistent with the State's policy of conservation in refusing to spend any money to impound the flood waters. Lines 10 to 21, State of the Case, p. 66, makes evident the fact that Mr. Potter, in making his plans as an engineer, at least thought well of the storage feature at the time of making those plans. Furthermore, State of the Case, p. 71, lines 14 to 20, the witness testified that Stevens Brook has not a supply sufficiently adequate for all possible future needs, and it would be involved in a tremendous amount of money for first cost, and with a limited supply. While speaking about Stevens Brook and the development of which it is capable, p. 73, State of the Case, lines 10 to 14, states:

"Q. What could you get, striking a mean balance, if you can, from your figures with storage?

A. A yield of 1,150,000."

This yield is two and one-quarter times as much as Wharton apparently needs, judging by this application. Mr. Potter again in a statement made, p. 84, State of the Case, lines 24 to 41, says:

"The only objection I see is that this development (meaning the building of a joint storage plant) cannot be made for two or three years. Wharton is willing to join and pay its share for the cost be-

> cause when we hear the testimony of Mr. Potts that they are up against it, it seems to me absurd to think this town should be compelled to pay $10. for storage when $1. will do long before Jersey City is up against this proposition, where year in and year out the supply is needed. We will go further and say if Jersey City in the meantime should be up against this 500,000 gallons, we will pay for that water during that time."

This statement is at the least an admission of the selfish policy, as far as finances are concerned, that Wharton is attempting to force upon Jersey City. In other words, if this grant or permit is permitted to stand, it requires very little imagination to foresee that the Borough of Wharton will always be willing to pay for what it gets when that time becomes necessary, feeling that Jersey City in its extremity when water is badly needed will build an additional storage plant, thus saving Wharton harmless from all expense. It may also well follow that when Jersey City has built, let us assume, a second storage plant, some other town along the course of this watershed will come in with a similar proposition, and so far as the action or sympathy of the State Department of Conservation and Development is concerned, Jersey City, logically speaking, will be compelled to build additional storage plants indefinitely.

On the other hand, the testimony of Mr. Potts from start to finish discloses the fact that Jersey City is faced with an alarming situation if Wharton is permitted to exercise the proposed powers given by this permit of the Department of Conservation and Development.

"Q. Isn't it your judgment as an engineer that if Jersey City gets down to that 500,000 as a matter of fact they ought to build additional storage reservoirs?

A. I think they are down now to that. *I think* 500,000 *gallons a day taken out of that River this year would be a menace to Jersey City.* I think further than that Jersey City ought to provide additional storage for their own good aside from your application.

Q. How could it have been a menace to Jersey City when this year you have only used up half your storage reservoir, and if you had had pipe lines you could have doubled your capacity?

A. We couldn't. I think the Commission of Jersey City between now and the next spring rains has cause to worry."

Further, see State of the Case, p. 114:

"Q. If this application from the Borough of Wharton is permitted to stand and Wharton exercises its right under this permit to take half a million gallons a day from the Rockaway River, what will the practical effect of that be on Jersey City?

A. It will deplete Jersey City's supply by the amount they take from the Rockaway River, and put Jersey City to the expense of providing additional storage to make up for the amount which the Borough of Wharton is permitted to take."

And further, State of the Case, p. 116, line 15:

"Q. As far as the reservoir itself is concerned, can you give us an example of

what the effect of this diversion by Wharton would be, looking now to the storage reservoir at Boonton; what practically would be its effect as to decreasing the efficiency of that reservoir?

A. The diversion of 500,000 gallons a day by Wharton would have the practical effect of taking eight inches off the surface or the top of the dam and lowering the water level of the Boonton Reservoir to that extent."

Again, State of the Case, p. 115, it becomes apparent just what the practical effect of allowing this grant to Wharton to stand would be as far as Jersey City is concerned. It is here evident that the dry weather flow of the Rockaway River is not sufficient to supply Jersey City's needs. Under this grant the Borough of Wharton is permitted to take a half million gallons of water per day from the dry weather flow of the stream without any attempt to conserve.

"Q. From the time that you had this question under observation, has Jersey City been able to take its supply at all times from the natural dry weather flow of the river?

A. No; by no means.

Q. What has it had to do?

A. It has had to draw on its storage at Boonton.

Q. Therefore, if I understand you, the ordinary flow of the river, as far as Jersey City is concerned, eliminating its storage, would not have been sufficient to have supplied Jersey City's needs?

A. No; by no means. For more than half the time during the year Jersey City takes all the dry weather flow of the Rockaway River, and draws on its storage besides."

From these considerations and from the testimony quoted, it leaves to be concluded that this action on the part of the Department of Conservation and Development is uneconomical, does not at all tend to conserve, but in fact rather dissipates the natural resources of the State.

Point III.

There has been no public necessity for this additional supply shown by the testimony submitted by the applicant herein.

It is manifest under Collingswood case that there should be a present apparent necessity for this additional water supply, and also it seems to us that it is the policy of the statutes in this subject to force a municipality to help itself in a manner best suited, not to the penurious whim of the moment of any man, but with the idea in mind as to what is best for the municipality applying, for the other municipalities who may be affected and for the state at large.

Mr. Potter, the Engineer for the Borough of Wharton, p. 52, line 37, in answer to a question, testified as follows:

"Dr. Kummel: Is there anything in your report which shows that the plans proposed are justified by public necessity or reasonably anticipated public use?

THE WITNESS: I presume that is answered by the fact that the people voted upon it favorably.

I think I am qualified to speak in regard to a very important part of it, and that is fire protection. The sizes of the mains, —the volume of water is absolutely inadequate to furnish any reasonable fire protection in the city, the sizes of the mains are so small—there is no reservoir capacity above 60,000 gallons I think—and the main leading from the reservoir to the town is such that it cannot afford any fire protection in the ordinary sense of the term, so the city is without fire protection. They have a few hydrants, but in case of a serious conflagration they would be without value.

MR. TONNELE: Is the present supply adequate or inadequate, not whether you can get the water where it is wanted, but is the present supply adequate or inadequate?

THE WITNESS: The supply is limited. The supply is from two springs at the present time. I think perhaps the Mayor had better make this statement because he is connected with the Iron Company, and I know things up there that he may think are confidential."

It is a very significant thing that the Mayor of Wharton was never called to show the existence of the public necessity, and it is also manifest that in a court of law the testimony of Mr. Potter as to what he understood and as to what he had been told, things apparently of which he had no personal knowledge, would never have

been permitted to go into the record of this case.

Again this same witness, Mr. Potter, at p. 49, State of the Case, says:

> "The development would cost at the present time about ten times what it would cost to take part in and to pay our proportionate share of whatever water we would need when the larger development goes through. The problem was to spend as little money in development as possible and put most of the money in the part that would be most effective. Therefore, we take water from the stream to the extent that we need it for the present.
>
> The report shows that there are available some other sources of water supply that could be developed at a very much larger cost. The report also shows that we can get water by building infilteration galleries along the Morris Canal. That will cost us more, but in order to do that we will be interfering with somebody else's rights, and it has seemed to be the simplest and most logical solution for the development of a water supply, and the amount that we require is so very small compared with what the developments of Jersey City would be that it seemed to me to be the wisest and best plan to pursue.
>
> If there should be any question about taking water from the river direct we can construct, and would be willing to take water from infilteration galleries or a well along the river and are satisfied that we can get water in that way."

Surely the statement of this witness just quoted plainly indicates that Wharton is pursuing a "penny wise and pound foolish" policy, and that this penurious scheme, if permitted to obtain, will perhaps solve this engineer's problem at the expense of others.

Point IV.

The proposed diversion is an unlawful interference with a vested property right, and works hardship on Jersey City as the lower riparian owner.

Wharton should not be permitted to divert water to the detriment of the lower riparian owner. Aside from the question of policy involved in the present application, the legal question presents itself as to whether or not Wharton, as against the lower owner, Jersey City, can divert the waters of the Rockaway River. It is fundamental that as against a lower owner one bordering upon a stream above cannot abstract waters from the stream to the detriment of that lower owner. While some of the cases hold that perhaps the upper owner may divert if there is no unreasonable abridgement of the lower owner's use, yet we must submit that in this case, where it appears that the dry weather flow does not at all begin to accommodate the needs of Jersey City, it would create havoc and disaster in a great measure if Wharton is allowed to divert from this dry weather flow a half million gallons of water per day. Wharton's plan, in a word, is not a plan for developing the water supply, but rather a move that contemplates confiscation of something that already exists, and which belongs to and is the property in fee of others.

The ordinary rule as to the rights of lower riparian owners is laid down by McQuillan in Volume 6 of his work on "Municipal Corporations," p. 5556, Section 2704, where he says:

> "Owners of lands" (which Jersey City is) "bordering on a stream have a legal right to the natural flow of the waters of such stream, and a municipal corporation" (Wharton) "will be liable for diverting the waters of a stream or water course and depriving lower riparian owners of the use thereof. * * * Municipalities are liable for their acts in increasing or diminishing the natural flow or volume of water to the injury of owners of lands bordering thereon."

There are a great many cases of the question involving the rights of the lower riparian owner and standing for the principle that one bordering on the streams at a place above must not use the waters of that stream nor can, in this case, the Department of Conservation and Development permit the use of the waters of the stream to the manifest injury and hardship of the lower riparian owner.

> "A riparian owner of lands on the stream below the point of diversion whose rights have never been condemned is entitled to the full flow of all the water of the stream even if he has never yet needed or used it."
>
> *Gray* vs. *Village of Fort Plain,* 105 App. Div., 215.

And again:

> "The state has no power to arbitrarily destroy the rights of a riparian owner without his consent and without compensation and due process of law for the sole purpose of benefiting some other riparian owner, or for any other merely private purpose."
>
> See *Priewe vs. Wis., St. L. & Imp. Co.*, 67 N. W. Rep., 918.

In this case it does not appear that Wharton, the applicant, is even a riparian owner and, even if it were, we have plenty of authority for the proposition that a water company or a municipality, even though a riparian owner, may store and pump the surplus or flood waters, providing, however, and only in the case that such diversion and appropriation causes no actual injury to riparian owners nor impairs the rights of anyone else along the stream at a lower point.

> See case of *Lehigh C. & N. Co.* vs. *Scranton G. & W. Co.*, 6 Pa. Dist., 291.

Nowhere in this case, however, does it appear that the Town of Wharton is even a riparian owner.

The Collingswood case, 84 N. J. L., 104, supports the proposition that an application of a municipality to construct municipal water works and to sink wells as a source of supply should be denied, on the ground that as a municipality was already enjoying an adequate supply of good water furnished by a private company at a reasonable rate, and as there was nothing to indicate that the supply was likely to become inadequate

or the quality to deteriorate, the plan proposed was not "justified by public necessity or reasonably anticipated public use," as provided in the statute.

It is not apparent nor has the Borough of Wharton attempted to make out a case that would justify the conclusion or even the inference that Wharton was not at the present time enjoying an adequate water supply or that its present application was "justified by public necessity or reasonably anticipated public use."

In the case of *Acquackanonk Water Co. and Others* vs. *Watson,* the Court of Errors and Appeals, in 29 Equity, p. 366, where it appeared that Watson was a riparian owner and conducted a bleachery on the banks of the stream and the owners higher up the stream desired to abstract waters therefrom for the public purpose of supplying a village, held that the use of the lower owner could not be disturbed even though his use was for manufacturing and the upper owners desired to supply a village with drinking water and water for household purposes, and the upper owners were enjoined from diverting the stream.

See also cases of:

Higgins vs. *Flemington Water Co.,* 36 Eq. 538.

Penryhn Slate Co. vs. *Granville E. L. & Power Co., et al.,* 181 N. Y. Rep. (Court of Appeals), 81.

Smith vs. *City of Rochester,* 92 N. Y. Rep. (Court of Appeals), 463.

Gillis vs. *Chase,* 31 Atl. Rep. 18.

Bullard vs. *Saratoga Victory Manufacturing Co.*, 77 N. Y. Rep. (Court of Appeals), 525.

Saunders vs. *Bluefield Waterworks & Imp. Co.*, 58 Fed. Rep. 133.

These cases cited, in our view, stand for the fundamental proposition that the lower riparian owner cannot be made to suffer by a diversion that is entirely new, that is, that heretofore was non-existent, and that the City of Jersey City as lower riparian owner had no reason to expect would come into being as an applicant to divert waters in this amount. Otherwise, we may argue that perhaps Jersey City would not have been satisfied with the Rockaway Watershed as a source of water supply, and perhaps, it would not have invested upwards of eleven million dollars at various times for the maintenance of this supply.

We recognize, of course, that the various boards or departments with jurisdiction over the natural resources of the State must attempt to equitably divide the equity of the State of New Jersey in those natural resources among the municipalities and the citizens of the State entitled thereto, but we complain that nothing could be more inequitable or unjust than to say to one municipality "you may take a new and extraordinary large supply of water even though the lower owners, when buying their rights, never anticipated such an application and further, you too, may take this extraordinary large volume of water from the dry weather flow of the Rockaway River even though lower riparian owner, who has the right to divert seventy million gallons of water a day to supply a population of four

hundred thousand people, had to expend upwards of eleven million dollars to conserve flood waters of the wet season.'' This is practically what the grant or permit of the Department of Conservation and Development amounts to.

We therefore respectfully insist:

1. That the Department of Conservation and Development was without jurisdiction to grant any such permit as was granted herein.

2. That there is no public necessity shown for the extraordinary application of the Borough of Wharton.

3. That the grant or permit in its present form is contrary to the State's policy of conserving natural resources of the State.

4. That it is an unlawful and unwarranted interference with the rights of Jersey City as a lower riparian owner.

Respectfully submitted,

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MacCrellish & Quigley Co., Printers, Trenton, N. J.

NEW JERSEY

Court of Errors and Appeals.

MICHAEL I. FAGEN, DIRECTOR OF THE DEPARTMENT OF STREETS AND PUBLIC IMPROVEMENTS OF THE CITY OF JERSEY CITY,
Prosecutor-Appellant,
vs.
THE MAYOR AND COMMON COUNCIL OF THE BOROUGH OF WHARTON, THE DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NEW JERSEY, AND THE NORTH JERSEY WATER SUPPLY DISTRICT,
Respondents-Appellees.
} On Appeal.

Brief on Behalf of the Department of Conservation and Development of the State of New Jersey.

The appeal in this case brings to this court the judgment of the Supreme Court rendered against the prosecutor in certiorari, who sought to review the action of the Department of Conservation and Development of the State of New Jersey in granting to the Borough of Wharton a permit, allowing said borough, under cer-

tain conditions, to divert five hundred thousand gallons of water daily from the Rockaway River.

I.

THE DEPARTMENT OF CONSERVATION AND DEVELOPMENT HAD JURISDICTION IN THE PREMISES TO APPROVE SAID PLAN OF THE BOROUGH OF WHARTON.

The Prosecutor in Certiorari contends that the Board of Conservation and Development had no jurisdiction in the premises whatsoever, and that the power to approve said plan resides solely in the North Jersey District Water Supply Commission.

It is submitted that such a contention is without merit.

The Legislature, in 1907, created a commission, to be known as the State Water Supply Commission (P. L. 1907, p. 663), and in paragraph three of said act provided:

> "3. Any municipal corporation, corporation or person may make application by petition, in writing, for the approval of its plans for obtaining such new or additional sources of water supply * * * After due hearing, the commission shall decide whether the plans proposed are justified by public necessity or reasonably anticipated public use * * *. Such commission shall * * * either approve such application, reject it entirely, or approve the same subject to such reasonable terms and conditions as the commission shall prescribe. * * * The approval of the commission shall constitute the State's assent to the diversion of water and the construction and operation of water-works in accordance with the terms of the decision and the plans filed therewith."

In 1915 the Legislature created a department of the State government to be known as the "Department of Conservation and Development" (P. L. 1915, p. 426), and in section five thereof provided:

> "The Board of Conservation and Development shall succeed to and exercise all the rights and powers and perform all the duties now exercised and performed by or conferred and charged upon the State Water Supply Commission * *."

The right of the State Department of Conservation and Development to exercise the powers and perform the duties formerly vested in the State Water Supply Commission has been formally recognized by this Court in the case of the *Society for Establishing Useful Manufactures* v. *Board of Conservation and Development et al.*, 101 *Atlantic Reporter, p.* 1025.

In 1916 the Legislature authorized the appointment of District Boards of Water Supply Commissioners (P. L. 1916, p. 129) for each of the two water supply districts into which the State had been divided, defined the powers, duties and compensation of the commissioners when appointed, and provided for the "obtaining, maintenance and operation of water supplies or new or additional water supplies by said commissioners *as agents of and by contract* with municipal and other corporations in their respective water districts * * *."

The powers of such district commissioners are clearly set forth in the act under which they are brought into being. The statute discloses a legislative plan or scheme whereby municipalities so desiring to take advantage of its provisions *may* enter into contracts with the commission for the obtaining of new or additional sources of water supply. It is purely a permissive statute. A municipality cannot be compelled to accept its provisions. The sole limitation on the power of a municipality to obtain new or additional sources of water sup-

ply is contained in subdivision four of paragraph eighteen (P. L. 1916, p. 139), which reads as follows:

> "Whenever any district commission has been brought into being by virtue of this act, it shall be unlawful for any municipality within the water supply district represented by said commission to obtain any new or additional water supply from any watershed *other* than the watershed or watersheds from which said municipality obtains its existing supply, without the consent of said district water supply commission."

If, therefore, a municipality desiring additional water supply makes provision to obtain the same from the watershed from which the existing supply is obtained the prohibition is of no effect. The Borough of Wharton obtains its present supply from Spring Brook (p. 111, Case). Spring Brook is a tributary of the Rockaway River from which river Wharton contemplates taking its new supply, and is a part of the Rockaway Watershed (p. 113, Case), and the action of the prohibition contained in subdivision four of paragraph eighteen.

The creation of the District Water Supply Commissions by the act of 1916 was not intended to deprive the Board of Conservation and Development of its supervisory power and jurisdiction.

Section six of the act of 1916 specifically recognizes such a right by providing that the consent of the State Water Supply Commission, or its successor, must first be obtained by the District Commission before a diversion under that act is permitted. (P. L. 1916, p. 131.)

There is no power in the North Jersey District Water Supply Commission to approve said plan. Any action which the commission might take must be after a contract is entered into with a municipality. It has no supervisory jurisdiction as to the approval of plans, etc., and it was not the legislative intent to deprive the Department of Conservation and Development, as the successor of the State Water Supply Commission, of

the right to exercise the powers and duties to approve plans conferred by the act of 1907.

II.

The Approval of the Plan of the Borough of Wharton was in Accordance with the Law Concerning the Conservation and Development of Natural Resources.

The test established by the water supply act of 1907 is "whether the plans proposed are justified by public necessity or reasonably anticipated public use, and whether such plans interfere unduly with the opportunity of other municipalities to obtain a water supply by the taking of waters necessary for their use, or whether the reduction of the dry-season flow of any stream will be caused to an amount likely to produce unsanitary conditions, or otherwise unduly injure public or private interests."

That such proposed plans are justified by public necessity or reasonably anticipated public use was abundantly proven at the hearing before the Commission (which testimony forms part of the record in this case). The present water supply is inadequate for fire protection (p. 53 Case); owing to mining operations, the springs which feed the brook may be destroyed (p. 55, Case); the present supply is about 30,000 gallons daily (p. 60, Case); the estimated population of Wharton 3,500 to 4,000 (p. 60, Case). The Water Supply Act of 1907 fixes the daily per capita allowance which a municipality is entitled to divert at one hundred gallons.

Whether the plan interferes *unduly* with the opportunity of other municipalities to obtain a water supply, it was shown that in 1917 Jersey City's diversion was 52.82 million gallons daily (p. 90, Case); the maximum amount which Wharton would be entitled to divert under its permit is 500,000 gallons, which is less than one per cent. of a single day's supply for Jersey City. The lowest point to which the Boonton reservoir has

ever been drawn down is thirteen feet (September 3, 1918), leaving a storage of 45,000,000 gallons, 90 days' supply, omitting the daily inflow of the river during the dry spell (pp. 92, 93, Case).

Whether the reduction of the dry-season flow would be likely to produce unsanitary conditions, an expert witness, produced by the Prosecutor, testified that the plan of the Borough of Wharton would interfere only to the extent of upsetting the scheme of Jersey City's water supply (p. 130, Case. See, also, p. 66 and p. 90). Under the plan of the Borough of Wharton, whenever it shall become necessary for Jersey City to provide additional storage on the Rockaway watershed the Borough of Wharton shall be obligated to contribute to the cost thereof such sum as shall be determined to be equitable, or in lieu thereof shall provide at its own expense its own storage. (See plan approved by Conservation Board, in State of the Case, p. 27.)

The conservation of surface water differs from that of certain other natural resources. The flow of streams is perennially renewed by rains. If the water in each river is not used to-day, it flows to the sea and is lost, but there is a new supply to-morrow. It would therefore not be true conservation to require the construction of storage reservoirs, which are unnecessary where the proposed taking bears such a small ratio to the total dry-season flow. It is more important from the viewpoint of conservation to conserve capital than it is to conserve unneeded water which will be renewed constantly, and it is therefore consistent that the granting of the permit to the Borough of Wharton was in consonance with the policy of the State regarding to the conservation and development of its resources. The plan approved was justified by public necessity and reasonably anticipated public use; it does not interfere *unduly* with the opportunity of Jersey City to obtain a water supply nor will it be likely to produce unsanitary conditions, and the grant is in harmony with the policy of the State.

III.

THE APPROVAL OF THE PLAN OF THE BOROUGH OF WHARTON IS NOT AN ILLEGAL INTERFERENCE WITH THE PROPERTY RIGHT OF THE MAYOR AND ALDERMEN OF JERSEY CITY.

The right of the City of Jersey City to divert water from the Rockaway River is limited and restricted by the Water Supply Act of 1907. Section eight, of said act, recognizes the right of an abstractor to take, without charge, so much water as was being diverted when the act took effect. In construing the section, Mr. Justice Bergen, in the case of the *East Jersey Water Company* v. *Board of Conservation and Development; Acquackanonk Water Company* v. *Board of Conservation,* 103 *Atlantic Reporter* 853, said:

> "The statute requires payment 'for all such water hereafter diverted in excess of the amount now being legally diverted,' with the proviso that no payment shall be required until the legal diversion shall exceed 100 gallons per day, per capita. We are of the opinion that 'legally diverted,' means not a future diversion, but one now being exercised under a legal right and that under this statute a legal abstractor may take what he was diverting in 1907, and if that did not reach the statutory maximum of exemption as much more as is required to make the total diversion 100 gallons per day per capita, for each of the municipalities supplied, without payment of the license fee."

In the case of the *State of New Jersey* v. *The Mayor and Board of Aldermen of Jersey City,* in which judgment has been entered in the court below, to recover for excess diversion, it was shown that at the time of the passage of the Water Supply Act of 1907, Jersey City was taking approximately 37,000,000 gallons daily; Jersey City's diversion for the year 1917, the last year

for which a report was filed with the Board of Conservation and Development, showed the diversion to be 52.82 million gallons daily (p. 90, Case). If in 1907 Jersey City was "legally diverting" approximately 37,000,000 gallons, the Prosecutor in certiorari has no property right in the excess now being diverted. The grant to the Borough of Wharton does not deprive Jersey City of the right to take and use any water which it is entitled to divert; its right as against the State is defined and restricted by the act of 1907, giving to the Water Supply Commission, in broad terms, supervision of the potable and public water supplies of the State, to the end that they may be prudently and economically developed for the use of the State. Jersey City may have a "vested property right" in the amount being diverted at the time of the passage of the act, but is liable for the excess to the State; in such excess it can have no property right, and the grant to the Borough of Wharton is not an interference with or an invasion of Jersey City's "vested property right."

It is submitted that the grant to the Borough of Wharton is in all respects reasonable and legal. By the terms of the grant it is provided that should Jersey City, by reason of the operations under this approval, be compelled to purchase additional water to meet its needs, the Borough of Wharton must reimburse the City of Jersey City for water so purchased, the amount not to exceed the net quantity taken by the Borough of Wharton. If the Borough of Wharton had last year drawn 500,000 gallons per day, the surface of the Jersey City reservoir would have been lowered only eight inches (p. 116, Case). The record further shows that the maximum diversion proposed under this plan will not be reached for many years; that at the present time it is only 13 per cent. of the maximum flow of the Rockaway River (p. 91, Case); that a large part of the

water so taken finds its way back to the river through seepage. That the amount diverted, less seepage, will, to that extent, diminish the flow of the Rockaway River, and that this diminution was not shown to be so great at present, nor would it be in the immediate future, as to unduly interfere with water supply of Jersey City.

On behalf of the Board of Conservation and Development, one of the respondents, it is contended that the Board had jurisdiction to approve said plans so submitted by the Borough of Wharton. That such approval was in harmony with the laws of the State regarding conservation and development, and that the plans so approved do not unduly interfere with the rights of the appellant.

It is respectfully submitted that the Appeal in this case should be dismissed.

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