

RULES AND REGULATIONS  
GOVERNING APPLICATIONS TO THE  
LITTLE EGG HARBOR  
MUNICIPAL UTILITIES AUTHORITY  
FOR CONSTRUCTION OF COMPREHENSIVE  
**WATER SYSTEMS**  
IN THE TOWNSHIP OF LITTLE EGG HARBOR

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**THE LITTLE EGG HARBOR MUNICIPAL UTILITIES AUTHORITY**  
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**RESOLUTION**

THE LITTLE EGG HARBOR MUNICIPAL UTILITIES AUTHORITY  
RULES AND REGULATIONS GOVERNING WATER SYSTEMS

WHEREAS, in consideration of the public interest in making available and preserving a potable water supply for general use within the Township of Little Egg Harbor, the governing body had heretofore pursuant to N.J.S.A. 40:14B –1 et seq. created the Little Egg Harbor Municipal Utilities Authority.

WHEREAS, the Authority has determined that the construction of comprehensive water distribution facilities to provide a potable water supply must be consistent and in accordance with standards established and created for all affected property owners and Applicants, and

WHEREAS, in accordance with that determination the Authority desires to promulgate Rules and Regulations pursuant to which such facilities shall be constructed and dedicated for the benefit of the users of such systems.

NOW, be it resolved by the Little Egg Harbor Municipal Utilities Authority that the Rules and Regulations as hereinafter set forth be and the same are hereby adopted.

## I. DEFINITIONS

As used in these Rules and Regulations, unless a different meaning clearly appears from the context, the following words shall have the following meaning:

<u>APPLICANT:</u>	the property owner or an authorized agent of the owner, certified to the Authority as such, making application to the Authority for review and approval of plans for a comprehensive water distribution system and/or connection to the water distribution system.
<u>AS BUILT:</u>	a record of the plans and details of the facilities as constructed.
<u>AUTHORITY:</u>	the Little Egg Harbor Municipal Utilities Authority.
<u>AUTHORITY ENGINEER:</u>	a licensed professional engineer retained or employed by the Authority.
<u>BUILDING LATERAL:</u>	the pipe and appurtenances between the building and the shut off valve (curb stop) located at or near the street curb or near the property line.
<u>ESTIMATE OF COSTS:</u>	An itemized list of improvements to be constructed shall be furnished and shall include, but not be limited to, cost of rights-of-way and easements as may be required. The estimate of costs will be subject to review and approval of the Authority's Engineer. The estimate must make use of the latest copy of the approved "Standard Unit Price Schedule" for water facilities.
<u>MAJOR SUBDIVISION:</u>	any subdivision classified as such in all Township ordinances.
<u>MULTLI-FAMILY STRUCTURE:</u>	any residence designed, intended for use or occupancy by or occupied by two of more families.
<u>NON-RESIDENTIAL STRUCTURE:</u>	any building designed or intended for use or occupancy for any purpose other than residential.

WATER SYSTEM:

all water mains or lines, service connections and all appurtenances necessary and incidental to the distribution of water, owned by the Authority.

SERVICE CONNECTION:

the pipe and appurtenances between the Authority's street main and the Authority's shut off valve located at or near the street curb or near the property line.

TOWNSHIP:

the Township of Little Egg Harbor, in the County of Ocean, State of New Jersey.

WATER MAIN:

a water pipe in a public street or easement other than a service connection.

## **II. CONDITIONS REQUIRING INSTALLATION OF AND CONNECTION TO WATER SYSTEMS**

Any subdivision or any multi-family structure regardless of volume of flow, and all non-residential development shall be required to install a water distribution system and to connect to the nearest operational water main in the Township in accordance with the provisions of the Ordinances of the Township of Little Egg Harbor and of these Rules and Regulations, except as herein provided. The Applicant is responsible to design and construct a water main to all property corners at all existing street frontage, for future extensions and/or for the looping of the system. If the Applicant designs the mains through the proposed development and is able to provide the same end result, the Authority may, at its sole option, approve such alternate

In the event that the Applicant's lands are deemed by the Authority to be too remote from an operational water distribution main; then a well, treatment plant and storage facility may be required. Said plant and the location thereof shall be subject to approval by the Authority in accordance with the standards and requirements as hereinafter set forth, and as may be required by any other governmental regulatory agencies having jurisdiction thereof.

Whenever a water system shall be operational in any given area of the Little Egg Harbor Township, the owner of any structure which abuts or is adjacent to or within 200 feet from any operational main within the said water system shall, prior to, or as a condition of continued occupancy, be required to tie into said system, make use thereof and be subject to such costs and charges as shall be promulgated from time to time by the Authority pursuant to statutory authorization.

### **III. APPLICATIONS TO THE AUTHORITY**

#### **A. General**

Prior to consideration, applications shall be filed with the Authority together with the required fees.

All application, review and inspection fees shall be paid by check or in cash as hereinafter provided. If the cost to the Authority of review or inspection exceeds the amount set forth herein, the Authority shall within 120 days of incurring such excess cost provide the Applicant with evidence of the amount of such excess cost. The Applicant shall remit by check or cash to the Authority the amount of any excess cost within 15 days after the receipt of a true copy or evidence of such cost. In no event shall the amount charged by the Authority to the Applicant exceed the actual cost to the Authority. For any check returned to the Authority by a bank, the Applicant will be charged any and all fees as the Authority is charged by the bank.

All preliminary, tentative or final applications must be submitted at least 21 days before a regular scheduled meeting of the Authority. All applications are to be signed by the Owner or by a duly authorized agent, shall be accompanied by proof of authorization by affidavit of the Owner.

#### **B. Application for Connection to Operational Water System**

This application shall be accompanied by fees as set forth herein, on a form provided by the Authority.

Water connection shall be made to a street main only under the review and inspection of the Authority's authorized representative. Connection to the water main shall be made in accordance with methods set forth within these Rules and Regulations.

The water service and its maintenance and/or repair, is solely the responsibility of the landowner from Authority's curb shut-off to the building.

#### **C. Application for Preliminary Approval**

The Applicant shall submit a preliminary application, on a form provided by the Authority. The application shall state whether:

1. Installation of individual water systems are proposed; Proposed individual water systems shall be constructed in accordance with New Jersey Statutes, Ocean County Ordinances and all state and county regulations.

2. Installation of individual water systems together with a comprehensive system of “Dry Lines” are proposed.
3. An active comprehensive water distribution system is proposed.

#### Submission Requirements for Preliminary Approval

A complete application for Preliminary Approval shall consist of:

- 1 Completed Preliminary Application form, original and one (1) copy
- 2 Certification of Payment of taxes, original and two (2) copies.
- 3 Application fee of \$150.00
- 4 General location plan and sketch plan or subdivision plat, indicating streets and tax block and lot numbers, 3 copies.

#### Authority Action on Preliminary Applications

The Applicant shall receive written notification from the Authority as to whether:

1. Individual water systems will be permitted.
2. Individual water systems will be permitted together with the installation of comprehensive system of “Dry Lines”.
3. An active comprehensive water distribution system shall be required.

Preliminary approval shall expire 1 year from the date on which the resolution of Preliminary Approval is adopted.

#### **D. Application for Tentative Approval**

Should the Authority determine that a comprehensive system of “Dry Lines” or active comprehensive water system shall be required, the Applicant must submit a tentative application for review and approval by the Authority.

#### Submission Requirements for Tentative Approval

A complete application for Tentative Approval shall consist of the documents, listed below, all prepared in accordance with the design criteria of these Rules and Regulations.

- 1.) Completed Tentative Application Form, original and two (2) copies.
- 2.) Certificate of Payment of Taxes, original and two (2) copies.

- 3.) Review escrow, equal to 3-1/2% of the estimated cost of construction, based upon the Authority's standard unit price schedule, subject to review and approval by the Authority's Engineer. The minimum fee shall be \$300.00.
- 4.) Plans of all proposed water mains including service connections, hydrants, blow-offs, etc., 3 copies, signed and sealed by a licensed engineer.
- 5.) Plans for booster pumping stations, treatment plants, and/or water tanks if any, 3 copies.
- 6.) Engineer's Report, 3 copies.
- 7.) An application form, filled out in the name of the Authority, to the NJDEP, with applicable fee.

#### Authority Action on Tentative Applications

Within 60 days of receipt of a complete application, the Authority shall review and take action on the application. Approval of the Tentative application shall authorize the submission of the permit applications to NJDEP, if applicable.

Tentative approval shall expire 3 years from the date on which the resolution of tentative approval is adopted. The Applicant may submit for final approval on or before the expiration date of tentative approval the whole or a section or sections of the project. The Applicant may apply for and the Authority may grant extensions to such tentative approval for additional periods of 1 year each but not to exceed a total extension of 2 years, provided that if the design standards have been revised by the Rules and Regulations, such revised standards shall govern.

In the case of a project of 50 acres or more, the Authority may grant an approval longer than 3 years as shall reasonably be determined by the Authority. The Applicant may apply for and the Authority may grant extensions to such tentative approval for such additional period of time as shall reasonably be determined by the Authority, provided that if the design standards have been revised by the Rules and Regulations, such revised standards shall govern.

Whenever the Authority grants an extension of tentative approval and tentative approval has expired before the date on which the extension is granted, the extensions shall begin on what would otherwise be the expiration date. The Applicant may apply for an extension either before or after what would otherwise be the expiration date.

## Approval of Plans by State and other Agencies

Approval of plans by the New Jersey Department of Environmental Protection, Division

of Water Resources, must be obtained and will be a condition of the Authority's final approval. The Applicant shall obtain all permits from the New Jersey Department of Environmental Protection where required. Permits to construct water main and/or other structures within the right-of-way limits of State, County, and Municipal roads and all Railroads must be secured and paid for by the Applicant.

Water diversion rights will be secured by the Applicant in the name of the Authority, from the New Jersey Department of Environmental Protection, Division of Water Resources. Well drilling permits shall be obtained by the Applicant.

### **E. Application for Final Approval**

Upon notification by the Authority that tentative approval has been granted and all NJDEP permits received (if any), an application for final approval may be filed for review and approval by the Authority.

#### Submission Requirements for Final Approval

- 1.) Completed Final Application Form, original and two (2) copies.
- 2.) Certificate of Payment of Taxes, original and two (2) copies.
- 3.) Review escrow, equal to 1% of the estimated cost of construction, based upon the Authority's Standard unit price schedule, subject to review and approval by the Authority's Engineer. The minimum fee shall be \$300.00.
- 4.) Final plans of all proposed water mains, service connections, fire hydrants, blow-offs, etc. 3 copies, signed and sealed by a licensed engineer.
- 5.) Final construction plans for booster pumping stations, treatment plants and or water storage tanks, if any, 3 copies signed and sealed, by a licensed engineer.

#### Authority Action on Final Applications

Within 60 days of receipt of a complete application, the Authority shall review and take action on the application.

Final approval shall expire 2 years from the date on which the resolution of final approval is adopted. The Applicant may apply for and the Authority may grant

extensions to such final approval for additional periods of 1 year, but not to exceed three extensions.

In the case of a subdivision or site plan for a planned development of 50 acres or more, conventional subdivision or site plan 150 acres or more, or site plan for development of a nonresidential floor area of 200,000 square feet or more, the Authority may grant

extensions to such final approval for such additional period of time as shall reasonably be determined by the Authority.

Whenever the Authority grants an extension of final approval and final approval has expired before the date on which the extension is granted, the extension shall begin on what would otherwise be the expiration date. The Applicant may apply for the extension either before or after what would otherwise be the expiration date.

The Authority shall grant an extension of final approval for a period determined by the Authority, but not exceeding one year from what would otherwise be the expiration date, if the Applicant proves to the reasonable satisfaction of the Authority that the Applicant was barred or prevented, directly or indirectly, from proceeding with the project because of delays in obtaining legally required approvals from other governmental agencies and that the Applicant applied promptly for and diligently pursued these approvals. An Applicant shall apply for the extension before (1) the expiration date of final approval or (2) the 91<sup>st</sup> day after the Applicant receives the last legally required approval from other governmental agencies, whichever occurs later.

#### Easement Documents

The Applicant shall submit to the Authority within sixty (60) days from the date of final approval, a proposed deed of easements describing by metes and bounds all the lands to be dedicated to the Authority for utility purposes.

#### **F. Application for a Water Connection in Conjunction with Final Approval of Newly Constructed Water Facilities**

This application shall be filed in duplicate on a form provided by the Authority. The Applicant shall pay a connection fee, as provided in the current schedule of rates and charges adopted by the Authority, which shall be paid to the Authority upon submission of an application for connection.

In the event that the Applicant is required to provide a comprehensive system of “Dry Lines” and individual water systems, then the Applicant shall have the option of paying the said connection fee at the time of final approval. The exercise of such option shall be made in writing by the Applicant at the time of application.

If the Applicant elects not to pay the connection fee, buyers shall be notified in writing that the Authority will charge the connection fee in effect at the time said "dry" water system is connected to a functioning water treatment facility or transmission line. A copy of said notice signed by the buyer shall be filed with the Authority as a condition to the issuance of a certificate of occupancy.

Should Applicant's property abut or be contiguous with any street or lands in which there is an operational water line, the Applicant shall apply for connection to such line

on a form provided by the Authority and shall pay such fees therefor as may be required.

Water connections shall be made to a water main only by the contractor authorized by the Authority to make such connections.

Approval of the Township Plumbing Inspector shall be required by the Authority prior to use of any service to a building.

The above shall also apply where a landowner is required by the Authority to connect to an operational water main.

The landowner is solely responsible for the maintenance and/or repair of the water pipe between the building and the Authority's shut-off.

#### **IV. DOCUMENT DETAILS**

The following information is intended to generally describe the minimum required information for applications to the Authority. Additional information may be required, as determined by the Authority, Authority Engineer or Solicitor.

##### **A. General Map of the Entire Project**

A general map of the entire project shall be furnished to show booster pumping stations, water distribution system, and water supply and storage facilities for the project at a scale appropriate for a 24" X 36" sheet and a key map at a scale of 1" = 1000'.

##### **B. Plans of all Proposed Water Distribution Systems**

Properly entitled plans shall be of uniform size, 24 X 36 inches with a ½ inch border on top, bottom, and right side and a 2 - inch border on the left side. Three sets of plans shall be submitted and show the following:

1. Details - Plans shall show all existing and proposed improvements including underground utilities, water mains, sewer mains, storm drains, first floor elevations of proposed buildings, etc. Contours shall be shown at 2 foot intervals with proposed streets and surface elevations at all breaks in grade and street intersections, tributary areas with population per acre, the true or magnetic meridian, boundary line, title, date and scale. All sheets shall be numbered. Drawings not meeting reasonable engineering standards as to accuracy and neatness will not be accepted.
2. Symbols - Water mains to be built, as indicated by this application, shall be shown by dashed lines ( \_\_\_ \_\_\_ \_\_\_ ); water mains proposed for future construction to be shown by double dashed lines ( -- -- -- ); existing water mains to be shown by solid line ( \_\_\_W\_\_\_ ). All topographical symbols and conventions shall be the same as those of the U.S. Geological Survey.
3. Elevations - All permanent bench marks of New Jersey Coast and Geodetic Survey shall be shown. Elevations of street surfaces shall be placed outside the street lines. The elevations of sewer inverts, shown at street intersections, ends of lines, and at changes of grades shall be written parallel with the sewer lines and between the street lines. The elevations of street surfaces shall be shown to the nearest 0.1 foot; the sewer inverts to the nearest 0.01 foot. Sufficient bench marks shall be permanently established for the area.

4. Distances, Grades and Sizes - The distances and stationing between valves, water main diameters, strength class, and material shall be shown on the plans. Plans, profiles and hydraulic analyses of the existing water distribution system from the Applicant's point of connection to the point of supply by the Little Egg Harbor Municipal Utilities Authority shall be included.

**C. Blanket Easements**

When blanket easements are required, the Applicant shall add the following note to the Final Plat: Little Egg Harbor Municipal Utilities Authority shall have an easement of access for the purpose of maintaining the on-site comprehensive water system. Said easement is hereby granted to the Little Egg Harbor Municipal Utilities Authority over all or any part of Block \_\_\_\_\_, Lot \_\_\_\_\_ for said purpose.

**D. Detailed Plans of Storage Tanks, Wells, Pumping Stations and/or Treatment Works, if applicable**

The plans for storage tanks, wells, pumping stations, and/or treatment plants, shall include general site plan showing boundaries, one-foot contours, proposed pumping stations, wells, underground piping and appurtenances, underground and overhead wires. The detail plans for wells shall show the depth, size and construction of each well. Results from test well, logging, etc. shall be furnished as the basis for design. The ground strata through which the well is to be driven shall be shown in cross-section. The arrangement of mechanical and electrical equipment within the well house plus connections to the storage tanks and distribution system shall be shown. The method and equipment proposed for applying sodium hypochlorite shall be clearly indicated. If treatment beyond chlorination is required, the plans shall show details of each component of the treatment facility, the method of applying chemicals, master meter, piping, valves, etc. The plans and specifications must indicate provisions for landscaping, paved roads, and walkways. Drawings shall conform to the size specified with these rules and regulations.

For Tentative Approval, the plans shall include sufficient information such that they are in compliance with the submission requirements for NJDEP.

For Final Approval, the plans are to include a complete set of construction drawings, including all structural and electrical design drawings, as necessary for a complete project.

**E. Specifications**

Complete specifications for the construction of the proposed water system and appurtenances, including pumping stations and/or treatment plants, method of disinfection, shall accompany the plans. They may be omitted for main extensions, provided specifications for the water system are already filed and reference is made to them in the application. In addition, the requirements of all governmental regulatory agencies must be satisfied by the submitted specifications.

**F. Engineer's Report**

A complete engineer's report setting forth the basis of design shall be submitted to the Authority for each project.

The engineer's report shall include but not be limited to, all information required by the New Jersey Department of Environmental Protection and the Authority.

Material specifications and construction details shall be set forth and comply with those specified herein.

**G. Application to the New Jersey Department of Environmental Protection**

If applicable, the Applicant shall as a condition to receipt of final approval from the Authority, prepare and submit to the New Jersey Department of Environmental Protection, all required plans and specifications, Engineer's Report and the New Jersey DEP form in duplicate. The Applicant shall prepare and submit the entire exhibit to the New Jersey Department of Environmental Protection in the name of the Authority.

**H. Proof of Title and Paid Taxes**

A copy of a title report, title policy or attorney certificate, establishing that no part of the system is encumbered so as to prevent, unduly restrict, or circumscribe the ability to the Applicant to make all conveyances, transfers and dedications incidental to vesting in the Authority, title to the entire system and its appurtenances together with current proof of payment of real estate taxes. Should the Applicant not be the property owner, then the property owner must sign the application together with the Applicant.

## V. WATER SYSTEM DESIGN CRITERIA

### A. General

The following requirements are to be considered minimum requirements for the design and construction of water systems. The Applicant shall, through the proper balance of supply, storage and distribution, secure for the community a water system having a minimum, "Class 6" rating as judged by the American Insurance Association and outlined in their Standard Schedule for Grading Cities and Towns.

System design and placement shall comply with the following construction specifications, incorporated herein by reference: all applicable NJ Department of Environmental Protection (NJ DEP) rules, the American Water Works Association (AWWA) standards, and in the Pinelands Area, the Standards of the Pinelands Comprehensive Management Plan, with the strictest standards governing, with appropriate jurisdiction.

Regardless of the size of the project, the water distribution system shall be capable of supplying the necessary domestic flow and fire protection based upon the complete project flow and fire requirements.

### B. Estimation of Demand

The demand rates for all uses shall be considered in computing the total system demand. Where fire protection is provided in accordance with the Fire Suppression Rating Schedule, etc. as stated below, the system shall be capable of providing the required fire demand plus the required average daily residential demand as indicated in Table 5.1, NJAC 5:21-1.1 et seq, or the peak hour flows indicated in Table 5.2 NJAC 5:21-1.1 et seq , whichever is greater.

Average daily residential consumption shall be computed in accordance with the housing unit type and size data shown in Table 5.1, from NJAC 5:21-1.1 et seq. The peak daily flows shall be computed by applying a peaking factor of three (3) times the average daily residential consumption. The Authority may require deviations in the peaking factor value provided appropriate documentation and justification for the deviation from the standards is provided.

The design of the on-site water distribution system shall be adequate to provide fire protection as per ISO standard, *Fire Suppression Rating Schedule*, or per AWWA M31, "Manual of Water Supply Practices - Distribution System Requirements for Fire Protection," ISO method on pages 3-9, incorporated herein by references.

### **C. Pipeline Design**

Design capacity of water mains shall be such as to maintain a minimum pressure of 20 pounds per square inch (psi) at street level under all flow conditions.

Water mains shall be a minimum diameter of eight (8) inches except at the end of a permanent cul-de-sac, unless another size is required for fire flow and other criteria. A six (6) inch main may be used when it serves not more than 20 dwelling units and only one fire hydrant.

Distribution mains of the overall system shall be connected into loops so that the supply may be brought to the consumer from more than one direction. In balancing loops in a design, the Hardy-Cross, or an equivalent, method shall be used, Manning roughness coefficients listed in Table 7.1 in N.J.A.C. 5:21-7.1 or a C=100 frictional index based on the Hazen-Williams formula. may be used in these calculations. Dead-end lines shall be permitted within the design of a looped system provided that there are no more than 20 dwelling units permanently, or no more than 50 dwelling units temporarily, on a dead-end line. When dead-end lines are used, they shall be provided with a hydrant or blow-off at the terminus as a means of flushing.

If the requirements for dead ends prevent the feasible development of the project, then the Applicant shall demonstrate to the satisfaction of the Authority the site conditions that prevent the feasible development of the project and the proposed alternate design.

A corporation stop shut off with a valve box for air release shall be located at all high points in a distribution system, with adequate means of drainage provided. Unrestricted easements to the Authority water mains shall be a minimum of 20 feet wide. The pipe shall be placed 5 feet off either easement line to allow sufficient room for maintenance or installation of future pipe.

All dead-ends on mains to be extended in the future shall be valved, followed by one full length of pipe and closed with iron plugs or caps.

Valves, except on a permitted dead end, shall be located on distribution mains so that no more than one hydrant would be out of service as a result of a single water main break. They shall be located in all small branches off larger mains; and where eight (8) inch or larger mains lines intersect, a valve shall be located in each branch. At street intersections, valves shall be located near pipe intersections for ease in finding in the event of a water main break.

In addition to the above requirements, water mains shall be valved so that not more than

one-quarter of a mile would be affected by a single water main break. Geared valves on 16 inch mains or larger shall be furnished.

Hydrants shall be spaced to provide necessary fire flow. The average building area served per hydrant shall not exceed 120,000 square feet. In addition, the distance between any dwelling and a hydrant shall not exceed 400 feet when measured along the street right-of-way. Commercial and industrial areas will require closer spacing.

No pipe shall be placed on private property unless the owner of the land is to own or operate the pipe, or an easement deeded to the municipality or utility authority is obtained. All easements shall be a minimum of 20 feet wide unless depth of pipe, soil conditions, or additional utilities require wider.

Service connections shall be installed along the off-site main to serve all individual properties along the route. The Applicant shall submit to the Authority the contractor's cost proposal for the installation of the off-site service connections for the Authority's Engineer's review no later than thirty (30) days prior to commencement of construction. Costs for the installation of said service connections will be reimbursed by the Authority to the Applicant upon certification of the completion of the work by the Authority's Engineer and the Authority's approval.

**D. Design of Wells**

Wells shall be constructed and protected against possible contamination in accordance with American Water Works Association Standard A100. Well casings should be welded and made up with threaded couplings, and the protective casing shall have tight joints throughout its entire length.

A gamma ray log and/or a caliper log shall be provided for each well. The flow from each well shall be averaged over a 72 hour period and shall not be less than 300 gpm with a drawdown not lower than 5 feet above the top of the screen or pump, whichever is higher. Static readings of the well shall be taken every 3 hours for 12 hours prior to starting the test. During the test, one hour will be permitted for adjustment of equipment during each 8 hour period except that the pumping shall be continuous during the final 8 hours.

Test water level readings shall be taken at the following time intervals:

6	readings	every	5	minutes	for	30 minutes
3	"	"	10	"	"	30 "
4	"	"	15	"	"	60 "
2	"	"	30	"	"	60 "
1	"	"	60	"	"	remaining test time

Area of influence of the well shall be determined by at least one observation well.

Observation well requirements may be waived for wells over 200 feet in depth. Also, observation shall be made at all existing wells within a 1,000 foot radius regardless of well depth.

Well heads shall be at an elevation higher than the maximum flood level and high enough to permit drainage away from the facilities. All wells, treatment plants, and above ground appurtenances shall be located at least 500 feet from any possible source of contamination and shall be enclosed with a six (6) foot high chain link fence. They shall be provided with a double gate entrance for pedestrian and truck use.

The maximum pumping permitted from each well field shall be taken at 50% of the normal capacity of the well as determined from the aforementioned 72 hour test. Emergency electrical power must be provided.

#### **E. Design of Treatment Plants**

No general rules can be formulated for the design of treatment plants and each case will be considered individually based upon the raw water quality. Treatment facilities shall be so designed to produce water that is reasonably uniform and of the quality required by the New Jersey Department of Environmental Protection.

Treatment plants involve a considerable amount of design criteria. If an applicant is required to construct a plant, it must be in conformity with all existing State and Federal regulations. All designs must be fully reviewed and approved by the Authority Engineer.

The type and method of treatment must be approved by the New Jersey Department of Environmental Protection. Treatment plant plans and specifications must include provisions for lawns, shrubbery, paved roads and sidewalks. Plants shall be architecturally compatible with the environment. The entire property must be surrounded by a 6 foot high chain link fence.

Separate gates must be provided for pedestrian and truck use. Detailed estimates of operating and maintenance costs of the proposed treatment plant must be submitted with the engineer's estimate. Emergency electrical power must be provided. All water shall be disinfected before it enters the distribution system and shall have a residual of 0.2 mg/1 throughout the system. All standards of U.S. Environmental Protection Agency applicable to protection of the water sources, wells, water mains, equipment, and treatment works shall be met in the design of treatment plants.

The finished water shall meet the potable water standards adopted by the New Jersey Department of Environmental Protection. Adequate light, ventilation, heat

and potable water supply shall be provided at the plant. Complete repair and operating tools and accessories shall be provided with the treatment facilities and wells.

**F. Design of Booster Pumping Stations and Storage Tanks**

In general, the requirements of the Safe Drinking Water Act shall be used. Suitable controls and remote telemetering must be provided from the pumping station or storage tank to the Authority's center of operations. Telemetry must be via an automatic self dialing telephone system such as a RACO VERBATIM or equal. Storage tanks must be steel and shall be constructed by firms competent in the field of tank erection.

Storage may consist of an elevated tank, standpipe or, where units do not exceed 50, hydro pneumatic tank. The details of all storage facilities shall include tank dimensions, minimum water level and overflow level, capacity, foundation, piping, valve pit dimensions, etc.

Storage in elevated tanks or standpipes shall have a total effective capacity, when combined with pumping capacity, at least equal to the fire demand flow plus the maximum day consumption, or meet the peak hour demand requirements, whichever is greater.

The effective amount of water in elevated storage shall be that amount of water which is 70 feet higher than the highest point in the area being served, with allowance made for building heights.

All elevated storage tanks are to be equipped with a level recording system that is connected via a telephone lease line to the chart recorder at the Water Treatment Plant. A low level and high level alarm is to be installed and also transmitted via lease line to the Water Treatment Plant.

The pumping equipment, when hydro-pneumatic tanks are used, shall be designed to facilitate its change over to the overall elevated storage system as required by the Authority without undue loss in pressure in any part of the system.

The capacity of hydro-pneumatic tanks shall be sufficient to provide the peak hourly rate of consumption in combination with the pumping facilities for a period of not less than 20 minutes. The effective capacity of the tank shall be taken at 25%. The following formula shall govern the size of hydro-pneumatic tanks:

Required Tank Capacity in Gallons = (Peak flow less well yield) X 20 X 4. Peak hourly flow rate and total allowable yield from wells shall be expressed in gallons per minute.

A double acting altitude control valve shall be used for water level control in elevated storage tanks and standpipes. A by-pass line and pit shall also be provided.

**G. Oversizing**

When plans for future development necessitates oversizing of the water supply system, the Authority may enter into an agreement with the Applicant to address the fair share of the costs.

If the size of any water main, as shown by the application to be installed by the Applicant is inconsistent with the projected requirements of the area to be serviced, the Applicant shall install mains, as required by the Authority. The Authority shall pay the Applicant the differences in the material, labor and excavation costs as determined by the Authority or its Engineer.

If the Authority requires the installation of a booster pumping station of greater capacity than that capacity determined by the Authority as necessary to serve the Applicant, the Authority shall pay said Applicant the difference between the cost of the facilities necessary to serve the Applicant and the facilities required by the Authority as determined by the Authority or its Engineer.

The Authority will not assess the increased cost, if any, of the Engineer's review and inspection fee when the increased cost of such review and inspection to provide facilities in excess of those necessary to serve the Applicant results from an order of the Authority.

If the Authority requires a treatment plant and/or water storage tank of greater capacity than that capacity determined by the Authority as necessary to serve the Applicant, the Authority shall pay said Applicant the difference between the cost of the treatment plant and/or storage tank necessary to serve the Applicant and the cost of the treatment plant and/or storage tank required by the Authority.

## **VI. TECHNICAL SPECIFICATIONS**

All materials to be used on the proposed project that will become the property of the Authority upon conveyance by the Applicant shall be manufactured in the United States, whenever available. The Applicant is directed to refer to "Chapter 107, Laws 1982" of the State of New Jersey effective date October 3, 1982, as amended or supplemented.

### **A. Materials and Installation**

#### **1. Water Mains**

Pipe materials to be used in construction of water mains shall be cement-lined ductile iron, polyvinyl chloride, or prestressed concrete cylinder pipe.

For bridge crossings, or other special aerial installations, pipe material shall be steel, or ductile iron pipe.

For water main extension within the right-of-way of an existing or proposed collector road, pipe material shall be ductile iron pipe.

Ductile iron pipe, appurtenances, and fittings shall comply with ANSI/AWWA C110/A21.10 (fittings), C111/A21.11 (gasket joints), C115/A21.15 (flanged joints), and C151/A21.51 (pipe). Thickness shall be designed in accordance with ANSI/AWWA C150/A21.50 and shall be a minimum of Class 52. It shall be cement-mortar lined in accordance with ANSI/AWWA C104/A21.4. Joints shall be gasketed push-on in conformance with ANSI/AWWA C111/A21.11. The exterior of the ductile iron pipe shall be covered with a coal-tar, epoxy-type coating. In aggressive soils, ductile iron pipe wrapped in polyethylene, in accordance with ANSI/AWWA C105/A21.5, shall be used.

PVC pipe, appurtenances, and fittings shall conform to ANSI/AWWA C900 for pipe sizes four (4) inches to 12 inches, and joints shall be elastomeric-gasket couplings of a corresponding size. Laboratory performance requirements, as specified in ASTM D3139, shall be met. Solvent-cement couplings shall not be permitted.

Steel pipe shall conform to AWWA C202. Steel pipe under 12 inches in diameter shall be Schedule 40, 12 inches and over shall have a wall thickness of 0.375 inches. Steel pipe shall be cement mortar lined and coated in accordance with AWWA C104. Buried steel pipe shall be wrapped in accordance with AWWA C203, Section A-1.4. Exposed steel pipe shall be primed (2 mil dry) and then painted with a two coat vinyl system (5 mil dry total). Ductile iron pipe shall be encased in polyethylene in accordance with AWWA C105-72 when soil

conditions so dictate. The Authority Engineer will make the determination.

Where transitions to flanged fittings are made, adapters approved by the Authority shall be used.

Pipe bedding and backfill shall be installed in accordance with the pipe manufacturer's recommendations.

The Authority may require the Applicant to provide an opinion of a professional engineer relative to the suitability of the on-site material to be used as backfill. The Authority shall rely on this opinion.

Where the on-site material is deemed suitable, the opinion shall specify the appropriate installation methods for the material. Where the on-site material is deemed not suitable, the opinion shall specify modification or replacement of the material and the appropriate installation for the specified material.

Prestressed concrete cylinder pipe shall conform to AWWA Specifications C301. Joint shall be rubber and steel, LOCK-JOINT SP-5 or approved equal.

## 2. Valves

Gate valves shall be iron body, non-rising bronze stem with either double disc gates or resilient seated wedge. All internal ferrous metal surfaces shall be fully epoxy coated. Valves shall be full size. Valves on 16 inch mains or larger shall be butterfly valves and shall have suitable by-passes. All valves shall meet or exceed AWWA Standards. Valve boxes shall be cast iron of the adjustable type with a minimum shaft diameter of 5-1/4 inches, with cover indicator of "water" and direction of valve operation. The valve box cover shall be set flush with the surface of the finished grade.

Valves shall have a working water pressure rating of 200 psi. Valves shall open left (counter clockwise) and be provided with 2" square wrench nuts.

## 3. Hydrants

Installation of hydrants shall be in accordance with the requirements of the AWWA Standard for Dry-Barrel Fire Hydrants, ANSI/AWWA C502. Street main connections shall not be less than six (6) inches in diameter. A valve shall be provided on connections between hydrants and street mains. All pipe, fittings, and appurtenances supplying fire hydrants shall be AWWA or ASTM approved.

All fire hydrants shall conform to NFPA Standard 291.

All hose connections shall have National Standard Threads.

In the interest of standardization, only hydrants manufactured by Mueller or approved equal are considered acceptable. All fire hydrants shall be painted red. All fire hydrants shall be Mueller Super Centurion 200 A-423 or approved equal. Fire hydrants shall have a minimum valve opening of 5-1/4 inches.

All hydrants are to be properly secured with thrust blocking or rods. The preferred method is to rod the six (6) inch hydrant valve to the main, thence rod the hydrant to the six (6) inch valve.

4. Blow-Offs

A blowoff must be installed at every dead end. The blow-off shall be a Mueller A-412 post flush type hydrant with one 2-1/2 inch nozzle. Hydrant is connected to main using a 3 inch Ductile Iron Pipe main and a 3 inch Gate Valve. A conventional fire hydrant will serve as a blow-off when it is installed on a dead end beyond the last service connection.

5. Fittings

All fittings shall be new and suitable for a minimum working pressure of 150 psi. Iron fittings shall be cement-lined with a bituminous seal coat interior conforming to ANSI/AWWA C104/A21.4 and an exterior coating of coal tar or asphalt foundry dip. Tees, bends, etc. of 11-1/4° or greater shall be blocked against movement from water pressure using proper size thrust blocks.

6. Water Services

All curb stops shall be constructed in the public right-of-way and not in any driveway or sidewalk.

Inspection and approval of the installation of the building lateral from the curb shut-off to the building is under the jurisdiction of the Township Board of Health acting through the Township Plumbing Inspector.

Separate water service connections for each unit shall be utilized for detached housing where maintenance is the responsibility of the individual homeowner.

Common water service connections shall be allowed for multi-family housing where there is an entity, such as a homeowner's association, that is responsible for the maintenance of the common water laterals. Where common laterals are utilized, individual water shut offs and meters shall be provided for each unit. The Authority's responsibility for maintenance and repair shall terminate at the water shut off of the common water lateral. A blanket easement shall be provided for access by the Authority to the individual shut offs.

The water service connections for service to the docks must include a curb shut off, a water meter with a remote readout and a backflow preventer. The make and model of the backflow preventer shall be submitted to the Authority's Engineer for approval. The water meter and backflow preventer shall be installed in a location to the satisfaction of the Authority and visible for inspections by the Authority's personnel. The property owner shall be responsible to construct, own, operate and maintain the dock service, and the Authority shall bill the property owner for the water usage to the dock area based on the current rate schedule.

7. Water Meters

The meter shall be provided and installed by the Authority at the Applicant's cost which shall be established by the Authority. Upon completion of the cable installation by the Applicant, the Authority shall install the remote readout receptacle and set the account codes. The remote readout receptacle shall be installed on the outside of an exterior wall no more than eighteen (18) inches from either side of the electric meter and approximately four to five feet above the finished grade. There shall be no shrubs, fences or obstructions whatsoever which prevent easy access to the receptacle. The water service shall not be used until the installation of the meter and all accessories has been completed and the Authority has determined the system is operating properly.

No meters are to be installed in a crawlspace on new construction. On existing homes, the meter shall be within 10 feet or less from a crawlspace entry.

Where the construction of more than one unit is contemplated, the meter location shall be standardized by the Applicant.

For buildings requiring a meter larger than 5/8 x 3/4, the Applicant shall be responsible to purchase and install the meter. The meter shall read in gallons, and be as manufactured by Schlumberger, including RF transmitter, and remote encoder register.

**B. Leakage and Testing**

The contractor shall furnish all labor, materials and equipment necessary for the testing. Preliminary pressure and leakage tests shall be made as required to reasonably assure a successful final acceptance test which will be made under the inspection of the Authority having jurisdiction.

No work shall be closed or covered up until it has been duly inspected and approved for proper and satisfactory construction and installation. Should uncompleted or unapproved work be covered, the Applicant shall uncover all

work so that it can be properly inspected and approved; and after such inspection and approval he will properly repair and replace all work found defective, unsatisfactory, and not in accord with the Plans and Specifications, and after such repair and replacement, he will bring all work to the completeness and status existing before it was closed and covered. After absorption is complete, the pipe(s) and appurtenances shall be pressure-tested for a period of one hour under a pressure equal to twice the maximum possible pressure in each pressure zone but in any case not less than 150 psi. A leakage test shall be conducted after the satisfactory completion of the pressure test.

The duration of each leakage test shall be 2 hours; and during this period, the main shall be subjected to a pressure equal to twice the maximum possible pressure zone, but in any case not less than 150 psi, and shall not be permitted to fall more than 10 psi below that amount.

Leakage is defined as that quantity of water to be supplied into the newly laid pipe, or any valved section thereof, necessary to maintain the specified leakage pressure after the pipe has been filled with water and the air expelled.

No pipe installation will be approved until the leakage is less than the number of gallons per hour as determined by the following formula:

$$L = SDP^{0.5}/133,200$$

where:

L = Allowable leakage in gallons per hour

S = Length of pipe tested (feet)

P = Average test pressure during the test (psi)

D = Nominal diameter of pipe (inches)

If leakage occurs greater than the allowable quantity specified, the defective joints or pipes shall be located and repaired until the leakage is within the acceptable allowance. Leakage tests shall be conducted in accordance with AWWA C600.

### **C. Disinfection**

Before being placed in service, all water mains, appurtenances, pipe, treatment units and storage tanks shall be disinfected. The mains and tanks shall first be thoroughly flushed to remove all dirt and foreign matter and then filled with water containing a dosage of 50 ppm of chlorine. The chlorinated water shall be retained in the mains and tanks for at least 12 hours after which the mains and tanks shall be flushed. The Applicant may, at his option, chlorinate storage tanks by spraying all interior surfaces with a solution containing 500 ppm

concentration of chlorine.

A solution of not less than one percent of the tank capacity shall be prepared at this concentration and sprayed on all surfaces. The tank shall then stand with drain closed for at least 12 hours. When the required time has elapsed, the tank shall be drained and flushed with water. After flushing, the system shall be filled with water and a bacterial analysis, by a licensed laboratory, shall be made. The results shall meet the standards as set forth by the New Jersey Department of Environmental Protection. Disinfection shall be done in accordance with AWWA C601.

## **VII. GUARANTEES and ESCROW DEPOSITS**

### **A. Acceptable Types**

The Authority shall accept a performance or maintenance guarantee in the form of:

1. Cash.
2. A surety bond from a bonding company licensed to do business in the State of New Jersey and approved by the Authority, see enclosed standardized form.
3. An Irrevocable Letter of Credit issued by a recognized lending institution authorized to do business in the State of New Jersey and in a form and content approved by the Authority, see enclosed standardized form.
4. Other acceptable forms of Guarantee, as approved by the Authority.

### **B. Guarantees Required**

Prior to filing the final subdivision plat, the Applicant shall provide and the Authority shall accept a performance guarantee for the purpose of assuring the installation and maintenance of improvements. The performance guarantee shall be for a minimum of one year, and shall remain in full force and effect until reduced or released by the Authority.

1. The performance guarantee shall be in the amount equal to 120% of the estimated cost of construction of the required improvements based upon the Authority's unit price schedule, as determined by the Authority Engineer.

The Authority Engineer shall prepare an itemized estimate of cost of the improvements covered by the performance guarantee, which itemized estimate of cost shall be appended to each performance guarantee posted by the obligor.

In the event that final approval is by stages or sections of the project, the provisions of this section shall be applied by stage or section.

2. The time allowed for installation of the improvements for which the performance guarantee has been provided may be extended by the Authority by resolution. As a condition of any such extension, the amount of any performance guarantee shall be increased or reduced, as the case may be, to the amount of 120% of the estimated cost of construction determined as herein provided.
3. If the required improvements are not completed or constructed in accordance with the performance guarantee, the Applicant and surety, if

any, shall be liable thereon to the Authority for the reasonable cost of the

improvements not completed or constructed and the Authority may either prior to or after receipt of the proceeds thereof complete such improvements. Such completion or construction of improvements shall be subject to the public bidding requirements of the "Local Public Contracts Law," P.L. 1971, c. 198 (C. 40A:11-1 et seq.).

4. Nothing herein shall prevent an Applicant from installing required improvements prior to the filing of the final subdivision plat provided that final approval has been granted by the Authority, all regulatory construction permits have been secured and inspection fees are posted with the Authority pursuant to the itemized estimate of cost of construction as approved by the Authority Engineer.

At the time of filing the final subdivision plat the Applicant shall post a performance guarantee to guarantee the completion of any remaining improvements not yet completed.

### **C. Guarantee Reductions**

Upon substantial completion of all required improvements (except for the top course of paving) and the connection of same to the Authority system, the Applicant may request of the Authority in writing, by certified mail addressed in care of the Executive Director, that the Authority Engineer prepare, in accordance with the itemized estimate of cost prepared by the Authority Engineer and appended to the performance guarantee, a list of all uncompleted or unsatisfactory completed improvements. If such a request is made, the Applicant shall send a copy of the request to the Authority Engineer. The request shall indicate which improvements have been completed and which improvements remain uncompleted in the judgment of the Applicant. Thereupon the Authority Engineer shall inspect all improvements covered by the Applicant's request and shall file a detailed list and report, in writing, with the Authority, and shall simultaneously send a copy thereof to the Applicant not later than 45 days after receipt of the Applicant's request.

The list prepared by the Authority Engineer shall state, in detail, with respect to each improvement determined to be incomplete or unsatisfactory, the nature and extent of the incompleteness of each improvement or the nature and extent of, and remedy to correct any completed improvement determined to be unsatisfactory. The report prepared by the Authority Engineer shall identify each improvement determined to be complete and satisfactory together with a recommendation as to the amount of reduction to be made in the performance guarantee relating to the completed and satisfactory improvement, in accordance with the itemized estimate of cost prepared by the Authority Engineer and appended to the performance guarantee.

The Authority, by resolution, shall either approve and accept the improvements determined to be complete and satisfactory by the Authority Engineer, or reject any or all of such improvements for cause expressed in said resolution, and shall approve and authorize the amount of reduction to be made in the performance guarantee relating to the improvements accepted, in accordance with the itemized estimate of cost prepared by the Authority Engineer and appended to the performance guarantee. This resolution shall be adopted not later than 45 days after receipt of the list and report prepared by the Authority Engineer. Upon adoption of the resolution by the Authority, the Applicant shall be released from all liability pursuant to its performance guarantee, with respect to those approved and accepted improvements, provided that a percentage of the amount of the performance guarantee shall be retained to ensure completion and acceptability of all improvements.

The Applicant's request for a reduction in the amount of the performance guarantee must be accompanied by an affidavit certifying that all of the contractor(s) and supplier(s) have been paid in full as of the date of the request.

1. The amount of the performance guarantee may be reduced to 30% of the amount of the estimate of cost of construction upon successful completion of the preliminary testing of the system after all of the structures, mains, service connections and appurtenances have been installed. The preliminary testing is optional and not a requirement of the Authority.
2. The amount of the performance guarantee may be reduced to 20% of the amount of the estimate of cost of construction upon successful completion of the final testing of the system. The final testing will not be conducted until all of the underground utilities (water, sanitary sewer, storm sewer, gas, electric, telephone, etc.) and all of the curbs and sidewalks have been completed along with the base course of road restoration have been installed and approved.
3. The amount of the performance guarantee may be reduced to 10% of the amount of the estimate of cost of construction when the as-built plans in a form and content satisfactory to the Authority's Engineer have been submitted by the Applicant and when the only remaining punch list work consists of the final adjustments to set the valve box covers and curb shutoffs to final grade (i.e., final pavement overlay has not been completed).

**D. Guarantee Release**

The performance guarantee may be released by the Authority upon the completion of all final punch list items, resolution of all outstanding complaints, submission of all closeout documents and maintenance guarantees by the

Applicant to the Authority in a form and content satisfactory to the Authority's Attorney and upon formal acceptance of the improvements by the Authority.

Upon completion of required improvements or release of a performance guarantee a maintenance guarantee shall be posted with the Authority. The amount, terms and conditions of any maintenance guarantee shall be as set forth in this section.

Provision for a maintenance guarantee to be posted with the Authority shall be for a period of 2 years after final acceptance of the improvement, in the amount of 10% of the cost of the improvement, which cost shall be determined by the Authority Engineer according to the method of calculation set forth herein.

If the Authority Engineer fails to send or provide the list and report as requested by the Applicant pursuant to this section within 45 days from receipt of the request, the Applicant may apply to the court in a summary manner for an order compelling the Authority Engineer to provide the list and report within a stated time and the cost of applying to the court, including reasonable attorney's fees, may be awarded to the prevailing party.

If the Authority fails to approve and accept or reject the improvements determined by the Authority Engineer to be complete and satisfactory or reduce the performance guarantee for the complete and satisfactory improvements within 45 days from the receipt of the Authority Engineer's list and report, the Applicant may apply to the court in a summary manner for an order compelling, within a stated time, approval of the complete and satisfactory improvements and approval of a reduction in the performance guarantee for the complete and satisfactory improvements in accordance with the itemized estimate of cost prepared by the Authority Engineer and appended to the performance guarantee; and the cost of applying to the court, including reasonable attorney's fees, may be awarded to the prevailing party.

In the event that the Applicant has made a cash deposit with the Authority as part of the performance guarantee, then any partial reduction granted in the performance guarantee shall be applied to the cash deposit in the same proportion as the original cash deposit bears to the full amount of the performance guarantee.

If any portion of the required improvements is rejected, the Authority may require the Applicant to complete or correct such improvements and, upon completion or correction, the same procedure of notification, as set forth in this section shall be followed.

To the extent that any of the improvements have been dedicated to the Authority on the subdivision plat or site plan, the Authority shall be deemed, upon the

release of any performance guarantee required pursuant to this section, to have accepted dedication for public use of improvements made thereon according to site plans and subdivision plats approved by the Authority.

Nothing herein, however, shall be construed to limit the right of the Applicant to contest by legal proceedings any determination of the Authority or the Authority Engineer.

**E. Escrow Payments for Professional Services**

The Authority shall make all of the payments to professionals for services rendered for review of applications for projects, review and preparation of documents, inspection of improvements or other purposes. If the Authority required of the Applicant a deposit toward anticipated Authority expenses for these professional services, the deposit shall be placed in an escrow account. The amount of the deposit required shall be reasonable with regard to the scale and complexity of the project. All payments charged to the deposit shall be pursuant to vouchers from the professionals stating the hours spent, the hourly rate and the expenses incurred. The Authority shall render a written final accounting to the Applicant on the uses to which the deposit was put. Thereafter the Authority shall, upon written request, provide copies of the vouchers to the Applicant. If the salary, staff support and overhead for a professional are provided by the Authority, the charge to the deposit shall not exceed 200% of the sum of the products resulting from multiplying (1) the hourly base salary of each of the professionals by (2) the number of hours spent by the respective professional on review of the application for project or the Applicant's improvements, as the case may be. For other professionals the charge to the deposit shall be at the same rate as all other work of the same nature by the professional for the Authority pursuant to said professionals contract for services adopted by resolution of the Authority at its yearly Reorganization Meeting.

**F. Escrow Deposits with Authority, Interest**

Whenever an amount of money in excess of \$5,000.00 shall be deposited by an Applicant with the Authority for professional services employed by the Authority to review applications for a project, for Authority inspection fees in accordance with this section, the money, until repaid or applied to the purposes for which it is deposited, including the Applicant's portion of the interest earned thereon, except as otherwise provided in this section, shall continue to be the property of the Applicant and shall be held in trust by the Authority. Money deposited shall be held in escrow. The money shall be deposited in a banking institution or savings and loan association in this State insured by an agency of the federal government, or in any other fund or depository approved for such deposits by the State, in an account bearing interest at the minimum rate currently paid by the institution or depository on time or savings deposits. The Authority shall notify

the Applicant in writing of the name and address of the institution or depository in which the deposit is made and the amount of the deposit. The Authority shall not be required to refund an amount of interest paid on a deposit which does not exceed \$100.00 for the year. If the amount of interest exceeds \$100.00, that entire amount shall belong to the Applicant and shall be refunded to him by the Authority annually or at the time the deposit is repaid or applied to the purposes for which it was deposited, as the case may be; except that the Authority shall retain for administrative expenses a sum equivalent to no more than 33-1/3% of that entire amount which shall be in lieu of all other administrative and custodial expenses.

The provisions of this section shall apply only to that interest earned and paid on a deposit after the effective date of the adoption of these revised Rules and Regulations.

**G. Inspection Escrow Deposits**

The Applicant shall reimburse the Authority for all inspection fees paid to the Authority Engineer for the inspection of improvements; provided that the Authority shall require of the Applicant a deposit for the inspection fees in an amount not to exceed, except for extraordinary circumstances, the greater of \$500 or 8.5% of the cost of improvements. For those projects for which the anticipated inspection fees are less than \$10,000, fees may, at the option of the Applicant, be paid in two installments. The initial amount deposited by an Applicant shall be 50% of the anticipated fees. When the balance on deposit is reduced to 10% of the anticipated fees because of payment to the Authority Engineer for inspection, the Applicant shall deposit the remaining 50% of the anticipated inspection fees. For those projects for which the anticipated fees are \$10,000 or greater, fees may, at the option of the Applicant, be paid in four installments. The initial amount deposited by an Applicant shall be 25% of the anticipated fees. When the balance on deposit is reduced to 10% of the anticipated fees because of payments to the Authority Engineer for inspection, the Applicant shall make additional deposits of 25% of the anticipated fees. The Authority Engineer shall not perform any inspection if sufficient funds to pay for those inspections are not on deposit.

## **VIII. SYSTEM CONSTRUCTION**

No Applicant shall commence construction of any kind until a Construction Permit is issued by the Authority. The Authority shall not issue a Construction Permit until the Applicant has complied with all conditions of the application and the resolution of final approval, if applicable, and all required fees have been paid. The Construction Permit shall be in a form designated by the Authority and shall be issued at the office of the Authority during regular business hours. The Authority shall direct the Building Inspector that no building permit shall be issued from his department until proof of the issuance of a Construction Permit or a letter of no interest from the Authority is presented. A copy of each Construction Permit or letter of no interest shall be forwarded to the Building Inspector by the Authority at the time of issuance.

Application for a Construction Permit for the improvements shall be made not later than forty-five (45) days prior to the expiration of final approval. All construction of the said improvements shall be completed within three (3) years from the date of the issuance of the Construction Permit.

### **A. Inspection**

The Applicant shall give 72 hours notice to the Authority and the Authority's Engineer prior to construction. All construction shall comply with the approved plans and specifications and shall be subject to construction review or inspection by the Authority or its authorized representative. In the event of noncompliance, the Authority or its authorized representative may direct or order discontinuance of construction.

The Applicant shall submit a progress report together with the cost of construction at the end of each month to the Authority.

No service connections shall be made to a street main whether pressure tested or not, unless said connection is made under the review and inspection of the Authority's representative.

### **B. Shop and Working Drawings**

Prior to construction, the Contractor shall submit for approval, shop or work drawings of concrete reinforcement materials fabricated especially for the project and materials for which drawings are specifically requested. Such drawings shall show the principal dimensions and construction details. When it is customary to do so, or when the dimensions are of particular importance, the drawing shall be certified by the manufacturer as correct for this project.

No material shall be purchased or fabricated for equipment until the Authority's

Engineer has approved the shop or work drawings. No work shall be done upon any part of a structure where a shop or working drawing is required until such approval has been given by the Authority's Engineer. All shop or work drawings shall be submitted in five (5) copies to the Authority.

The approval of shop or working drawings, will be general and shall not relieve the Applicant from responsibility for details of design, dimensions, etc., necessary for proper fitting and construction work.

**C. As-Built Plans**

After construction and before final acceptance by the Authority, the Applicant - shall furnish to the Authority one mylar reproducible drawing, in ink, approved by the Authority's Engineer, and three sets of sealed prints of each drawing showing the distribution system and all facilities as constructed.

The "as-built" plans shall show the exact location of the water mains, water service connections, fire hydrants and main line valves. All water service connections shall be stationed from the nearest downstream sanitary sewer manhole.

**D. Operation and Maintenance Manuals**

After construction and before final acceptance, the Applicant shall furnish the Authority with five (5) sets of Operation and Maintenance Manuals for facilities constructed.

**E. Use of Water System by the Authority**

During construction and before final acceptance, the Authority shall have the right to use any completed portion of the system without waiving its right to order correction of any defects.

**F. Illegal Use of the System**

Use of the active portion of the water system for construction, flushing of sewers, and the like is strictly prohibited without the expressed permission of the Authority. Any other use for which the system was not specifically designed shall be an "Illegal Use of System," and is strictly prohibited. Such use shall be subject to penalty and/or fine as may be prescribed by law.

**G. Acceptance of Improvements by the Authority**

After construction of all proposed improvements has been completed, the Applicant shall:

1. Obtain from the Authority Engineer a certification that the construction has been completed in accordance with the approved plans and specifications.
2. Submit deeds with metes and bounds description to all lands, easements, and improvements not previously transferred, together with title policies.
3. Submit Affidavits of Title for land, easements, and equipment and a recitation thereon that everything conveyed to the Authority has been paid for in full. Corporate resolution authorizing said transfers if applicable.
4. Submit copy of filed subdivision plat showing all easements containing the filed plat number and filing date.
5. Submit surveys for sites and easements dedicated to the Authority and sealed by a licensed New Jersey Land Surveyor.
6. Submit Bills of Sale for all equipment and facilities, including warranties from manufacturers of equipment.
7. Submit releases from the general site contractor(s) who furnished and installed the facilities.
8. Furnish three sets of sealed prints and one mylar reproducible of the as-built plans.
9. Post a Maintenance Guarantee in a form and content approved by the Authority and to the satisfaction of the Authority's Attorney equal to 10% of the Estimate of Cost, guaranteeing the satisfactory performance and functioning of the improvements for a minimum of two (2) years.
10. Provide an affidavit that all submittals are true, accurate and complete and that all conveyances are free from any lien or encumbrances.
11. Attached hereto are proposed close-out documents which may be utilized by the applicant. The attached close-out documents are not required to be utilized, but documents similar to the close-out documents must be similar in form and content to the proposed documents which must be prepared by the applicant and submitted to the Authority's consulting engineer and attorney for review and recommendation of approval to the Authority.