

RULES AND REGULATIONS

GOVERNING APPLICATIONS TO THE

LITTLE EGG HARBOR
MUNICIPAL UTILITIES AUTHORITY

FOR CONSTRUCTION OF COMPREHENSIVE

SANITARY SEWER SYSTEMS

IN THE TOWNSHIP OF LITTLE EGG HARBOR

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THE LITTLE EGG HARBOR MUNICIPAL UTILITIES AUTHORITY

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RESOLUTION #15-93

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

WHEREAS, it has been declared to be in the public interest and to be the policy of the State to foster and promote by all reasonable means the collection, disposal and recycling of solid waste, including sewage sludge, in an environmentally sound manner and to relieve the lands and waters in or bordering the State from pollution from domestic, industrial and other sources; and

WHEREAS, there is in and about the Township of Little Egg Harbor water subject to pollution from causes arising within the Township; and

WHEREAS, in pursuit of the declared policy of the State the governing body of the Township of Little Egg Harbor has in accordance with the Authority granted by N.J.S.A. 40:14B-1 et seq. known as the "Municipal and County Authority's Law", created the Little Egg Harbor Municipal Utilities Authority; and

WHEREAS, the Authority so created is authorized and empowered to make and enforce Rules and Regulations for the use, maintenance and operation of the sanitary sewer collection system (and from time to time to amend the same); and

WHEREAS, the Authority has determined that such Rules and Regulations are necessary to assure compliance with standards of design and construction of additions to the comprehensive sanitary sewer collection system owned and operated by the Authority.

NOW, THEREFORE, be it RESOLVED by the Little Egg Harbor Municipal Utilities Authority that the following Rules and Regulations and amendments thereto be the same and 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 sanitary sewer collection system and/or connection to the sanitary sewer collection 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 clean-out located at or near the street curb or near the property line.
<u>INDIVIDUAL SEPTIC SYSTEM</u>	a system for disposal of sanitary sewage into the ground which is designed and constructed to retain most of the settleable solids in a septic tank and to discharge the liquid effluent to a disposal field.
<u>INDUSTRIAL WASTE</u>	such waste as so defined by Ocean County Utilities Authority.
<u>MAJOR SUBDIVISION</u>	any subdivision classified as such in all municipal ordinances.
<u>MULTI-FAMILY STRUCTURE</u>	any residence designed, intended for occupancy by or occupied by two or more families.
<u>NON-RESIDENTIAL STRUCTURE</u>	any building designed or intended for use or occupancy for any purpose other than residential.

PUMP STATION a permanent facility constructed to convey sewage by pumping rather than by gravity.

SANITARY SEWER SYSTEM
OR SANITARY SEWER
COLLECTION SYSTEM all sewer mains or lines, interceptors, service connections and all appurtenances necessary and incidental to the collection of sewage, owned by the Authority.

SERVICE CONNECTION the pipe and appurtenances between the Authority's street main and the Authority's clean-out located at or near the street curb or near the property line.

SEWER MAIN a sanitary sewer in a public street or easement other than a service connection.

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

II. CONDITIONS REQUIRING INSTALLATION OF AND CONNECTION TO SANITARY SEWER COLLECTION SYSTEMS

Any subdivision or any multi-family structure regardless of volume of flow, and all non-residential development shall be required to install a sanitary sewer collection system and to connect to the nearest operational sanitary sewer main in the Township of Little Egg Harbor and of these Rules and Regulations, except as herein provided.

Whenever a sanitary sewer collection 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 sewer main within the said sanitary sewer collection 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. The Applicant is required to design and construct a sewer main to all property corners at all existing street frontages, for future extensions. If the Applicant designs the mains thorough the proposed development and is able to provide the same end result, the Authority may, at its sole option, approve such alternate design.

A. Regulations Governing Wastes Discharged or to be Discharged Into Sanitary Sewers Collection System

Applicant shall conform with and abide by the minimum requirements of the Little Egg Harbor Municipal Utilities Authority as presently enacted and as amended and supplemented from time to time.

Sewage received into the facilities of the Authority shall not;

- (1) Be in such quantity as to impair or exceed the hydraulic capacity of such facilities as determined by the Authority's Engineer.
- (2) Contain any amount of solid matter that will prevent self-scouring flow when carried in sewers installed at the minimum design values.
- (3) Be of such a nature as to create explosive conditions.
- (4) Be discharged from tank trucks into manholes of the sanitary sewer collection system.

The Authority herein adopts by reference the Ocean County Utilities Authority's "Sewer User Regulations" as presently enacted and as amended and supplemented from time to time as the Authority's minimum requirements.

Grease traps or separation devices that are approved by the State or New Jersey Plumbing Code and local code as promulgated by the Township Board of Health must be installed and routinely maintained at those locations such as restaurants, bakeries, etc. that dispose of fat, oil or grease wastes. The Authority reserves the right to approve of the installation and thereafter routinely inspect the system for proper maintenance.

For industries discharging industrial waste, a written contract with the industry will be required. An industrial discharge control manhole must be installed in accordance with the Ocean County Utilities Authority requirements.

B. Compliance with Rules and Regulations

The Applicant shall comply with all of the Rules and Regulations as set forth herein. Failure to do so will result in a “stop work order” by the Authority. These Rules and Regulations are minimum requirements, and are not intended to replace detail specifications which are the responsibility of the Applicant. They are intended to apply to usual and not exceptional conditions. These Rules and Regulations are subject to amendments by the Little Egg Harbor Municipal Utilities Authority. The Authority reserves the right to specify additional requirements.

III. APPLICATIONS TO THE AUTHORITY

A. General

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

All application, review and inspection fees shall be paid by certified 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 certified check or cash to the Authority the amount of any excess cost within 15 days after the receipt of a true copy of the voucher or other evidence of such cost. In no event shall the amount charged by the Authority to the Applicant exceed the actual cost to the Authority. 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 or representative and if signed by an authorized agent, shall be accompanied by proof of authorization by affidavit of the Owner.

B. Application for Connection to Operational Sanitary Sewer Collection System

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

The property owner is responsible to construct the sanitary sewer connection from the main to the clean-out.

Sewer connection shall be made to a street main only under the review and inspection of the Authority's authorized representative. Connection to the sewer shall be made through an approved wye, saddle, or manhole. Connections shall be made in accordance with methods set forth within these Rules and Regulations.

The building lateral and its maintenance and/or repair, is solely the responsibility of the landowner from Authority's curb clean-out 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 septic systems are proposed.
2. Installation of individual septic systems together with a comprehensive system of "Dry Lines" are proposed.
3. An active comprehensive sanitary sewer collection system is proposed.

Submission Requirements for Preliminary Approval

A complete application for Preliminary Approval shall consist of:

1. Completed Preliminary Application form, original and two (2) copies
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 septic systems will be permitted.
2. Individual sewage systems will be permitted together with the installation of comprehensive system of "Dry Lines".
3. An active comprehensive sanitary sewer collection system shall be required.

Preliminary approval shall expire 1 year from the date on which the Resolution of Preliminary Application is adopted.

D. Application for Tentative Approval

Should the Authority determine that a comprehensive system of "Dry Lines" or active comprehensive sanitary sewer collection system shall be required, the Applicant must submit a tentative application in duplicate, on a form provided by the Authority.

If the project is located outside the limits of the approved sewer service area, the Applicant shall submit an application to the New Jersey Department of Environmental Protection to amend the Water Quality Management Plan prior to submittal of the tentative application.

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 sewer mains including service connections, manholes, etc., 3 copies, signed and sealed by a licensed engineer.
- 5.) Plans for any booster pumping stations, and/or treatment plants, if any, 3 copies.
- 6.) Engineer's Report, 3 copies.
- 7.) An application form, filled out in the name of the Authority to the New Jersey Department of Environmental Protection, with applicable fee.
- 8.) An application form, filled out in the name of the Authority, to the Ocean County Utilities Authority, 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 by the Authority shall be subject to approval of plans by the New Jersey Department of Environmental Protection. The Applicant shall obtain all permits from the New Jersey Department of Environmental Protection and Ocean County Utilities Authority. Permits to construct sewers 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.

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 extension 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.

Installment of Improvements Prior to Filing Plat

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

Prior to the time of filing the final subdivision plat the Applicant shall receive Final Approval from the Authority and post a performance guarantee to guarantee the completion of any remaining improvements not yet completed.

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 herein.

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 sewer mains, service connections, manholes, etc. 3 copies, signed and sealed by a licensed engineer.
- 5.) Final construction plans for pumping stations, and/or treatment plants if any, 3 copies signed and sealed, by a licensed engineer.
- 6.) Detailed estimate of construction costs.

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 91st 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 Sewer Connection in Conjunction with Final Approval of Newly Constructed Sanitary Sewer Collection 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 septic 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 fee is paid, the Applicant may represent to each buyer of the facilities covered by the application that said connection fees have been paid, and will not be subject to a connection fee when the sanitary sewer collection system becomes active.

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” sewer system is connected to a functioning wastewater treatment facility or trunk 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 sewer 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.

Sewer connections shall be made to a sewer 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 sewer main.

The landowner is solely responsible for the maintenance and/or repair of the sewer pipe between the building and the Authority’s curb clean-out.

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 sewers and pumping stations 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 Sanitary Sewer Collection 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. Any area from which sewage is to be pumped shall be indicated clearly. All sheets shall be numbered. Drawings not meeting reasonable engineering standards as to accuracy and neatness will not be accepted.
2. Symbols - Sewer mains to be built, as indicated by this application, shall be shown by dashed lines (___ ___ ___); sewer mains proposed for future construction to be shown by double dashed lines (-- -- --); existing sewer mains to be shown by solid line (___SS___). 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 benchmarks shall be permanently established for the area.

4. Distances, Grades and Sizes - The distances and stationing between manholes, grades in decimal, sewer sizes, strength class, and material shall be shown on the plans. Arrows shall show the direction of the flow. Plans, profiles and hydraulic analyses of the existing sanitary sewer from the Applicant's point of connection to the point of ultimate disposal 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 sewer 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. Profiles

Profiles shall show all manholes, siphons, pumping stations and elevations of stream crossings. Gradients and sizes of sewers, surface elevations, and sewer inverts shall be shown at each manhole. They shall be drawn to standard scales and the scales shall be shown on each sheet. An index of streets shall also be shown on each sheet. Profile sheets should be numbered consecutively.

E. Details of Construction of Manholes, etc.

Details of manholes, siphons, etc., shall accompany the plans. Details shall be drawn to standard scales to show clearly the nature of design.

F. Detailed Plans for Sewage Pumping Stations and Treatment Plants

The plans for the pumping stations shall include a general site plan showing boundaries, streams, contours, proposed pumping stations, underground piping, underground or overhead wires. The plans shall show the general arrangement of mechanical and electrical equipment, piping, valves, fittings, etc., within the various structures.

G. Specifications

Complete specifications for the construction of the proposed sanitary sewer collection system and appurtenances, including sewage pumping stations and treatment plants, shall accompany the plans. They may be omitted for sewer extensions, provided specifications for the sewer system are already filed and reference is made to them in the application. The requirements of all other

governmental regulatory agencies, must be satisfied by the submitted specifications.

H. Estimate of Costs

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 sanitary sewer facilities.

I. Engineer's Report

The engineer's report shall include by not be limited to, all information required by the New Jersey Department of Environmental Protection and the Ocean County Utilities Authority, and all information setting forth the basis of design.

J. 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.

K. Application to the New Jersey Department of Environmental Protection

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 DEPE 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.

L. Application to the Ocean County Utilities Authority

The Applicant shall as a condition to receipt of final approval from the Authority, prepare and submit to the Ocean County Utilities Authority, all required plans and specifications, Engineer's Report and the Ocean County Utilities Authority form in triplicate. The Applicant shall prepare and submit the entire exhibit to the Ocean County Utilities Authority in the name of the Authority.

V. SANITARYSEWER SYSTEM DESIGN CRITERIA

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.

A. General

The planning, design, construction, installation, modification, and operation of any treatment works or sanitary system shall be in accordance with the applicable NJDEP rules implementing the New Jersey Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and the New Jersey Water Quality Planning Act (N.J.S.A. 58:11A-1 et seq.); and, for items not covered by NJDEP rules, with ASCE Manual on Engineering Practice No. 37, incorporated herein by reference; and, in the Pinelands Area, with Pinelands Comprehensive Management Plan and, in the coastal area, with NJDEP rules implementing the Coastal Area Facilities Review Act (N.J.S.A. 13:19-1 et seq.).

All standard specifications referred to herein, such as ASA, AWWA, ASTM, ANSI, and the like, shall be the latest revision thereof, at the time of Application for Final Approval.

The Applicant shall submit to the Authority for review for compliance details of the planned pipes, joints, mains, laterals, and appurtenances. All materials used for sanitary sewer systems shall be manufactured in the United States, wherever available, as governed by P.L. 1982, c. 107, effective date October 3, 1982. The details shall comply with all standards and specifications listed herein.

If a public sanitary sewer system will be provided to the area within a six-year period as indicated in the municipal sewer master plan, official map, or other official document, the Authority may require installation of a capped system within the road right-of-way or Authority easements to service the approved lots; or, alternatively, the Authority may require a performance guarantee in lieu of the improvement. Capped sanitary sewers shall be allowed only in areas indicated for sewer service in the State of New Jersey Statewide Water Quality Management (WQM) Plans and where permitted by NJDEP through sewer connection approval.

Individual subsurface disposals systems shall comply with N.J.A.C. 7:9A-3.2 and 3.16.

B. Sewer Mains

Sewage received into the facilities of the Authority shall not impair or exceed the hydraulic capacity of existing facilities as determined by the Authority or the Authority's Engineer.

System design and placement shall comply with the following specifications:

Except where otherwise specified by the Authority, sanitary sewer manholes, when located within the municipal right-of-way, shall be at or near the center line of the paved cartway, but at a five (5) foot minimum from the edge of the pavement. Sanitary sewer mains shall be a minimum of ten (10) feet from the right-of-way.

All sanitary sewers shall be designed to carry four times the average flow, estimated 25 years in advance for the contributory area. Average flow shall be assumed to be 75 gallons per person, per day, four persons per unit.

Sewers shall be designed to flow with a minimum velocity of 2 feet per second and a maximum velocity of 10 feet per second at full flow based on Kutter's Formula with $n = 0.013$. Inverted siphons shall be designed for minimum velocity of 3 feet per second (3fps) and a maximum velocity of 6 feet per second (6fps).

All sewers shall be designed to meet the New Jersey Department of Environmental Protection's slope standards at N.J.A.C. 7:14A-23.6(B).

Pipe materials used in the construction of sanitary sewers, including gravity sewers, shall be PVC reinforced concrete, or ductile iron. All pipe and appurtenances shall comply with AWWA and ASTM standards referenced herein which are incorporated herein by reference.

Inverted siphons and force mains shall be constructed with accommodations for flushing.

Easements shall be in a form approved by the Authority or the Authority's Engineer and Attorney. Easements shall be required for all sanitary sewer lines which are not within a public right-of-way. Easements shall be a minimum of 20 feet wide for sanitary sewers that are not more than 15 feet deep. For sewers that are more than 15 feet deep, easements shall be a minimum of 30 feet wide. The depth of the sewer shall be measured from the design invert of the pipe to the surface of the proposed final grading.

C. Service Laterals

Sewer service connections and clean-outs shall be constructed of ductile iron (DI), polyvinyl chloride (PVC) or acrylonitrile butadiene styrene (ABS) plastic pipe.

As with water lines, common sanitary sewer service may be permitted for multi-family housing where there is an entity such as a homeowner's association that is responsible for the maintenance of the common laterals.

D. Pumping Stations

Sanitary sewer pumping stations shall be considered where gravity system design leads to excessive sewer depths which are not economically justifiable and shall comply with N.J.A.C. 7:14A-23.10, 23.11. AND 23.12.

In the event the Applicant requests the substitution of a pumping station and a force main in place of a gravity sewer main from the Applicant's land to any operational sewer main, and the Authority agrees to the substitution, the Applicant shall pay to the Authority in addition to all other fees, the cost of power, labor and maintenance of the pumping station capitalized at 5% for 40 years. Power costs shall be calculated by using the flow, lift and power unit costs. Labor and maintenance will be set at \$2,500.00 per year for each 100 gallons of sewage per minute pumped by the largest pump.

The Authority encourages the use of alternative methods to avoid the installation of pumping stations wherever possible. Where in the opinion of the Authority's Engineer, an alternative method is available, a pumping station will not be approved.

All raw sewage shall be screened before pumping. At the option of the Authority, comminutors may be required in lieu of screens. The screen must be removable using an attached cable and ride on a track system which allows removal from outside of the wet well. The screen is to have a basket configuration so it retains debris. At least two (2) pumps or ejectors shall be provided, each capable of handling the total peak flow. If more than 2 pumps are used, their capacities shall be such that upon failure of the largest pump, the others will handle the peak flow. Ejectors will not be permitted for flows exceeding 100 gallons per minute. Peak flow shall be equal to four times average flow.

Force main velocities shall not be less than 2 feet per second at normal pumping rate.

All pumping stations shall be the submersible pump type. No other type pumping station shall be approved by the Authority. The dimensions of valve pit shall be

determined by the Authority's Engineer upon review of plans. Valve pit shall be provided with adequate entrances, ventilation and drainage. All confined space areas where access is required shall be provided with gas monitors acceptable to the Authority's Engineer.

Wet wells shall slope toward the pump. Normally, the capacity of the wet well shall be 10 minutes flow at the average dry weather rate. An auxiliary source of power housed in a superstructure to conform to the neighborhood architecture shall be provided for all electrically driven pumps, unless waived by the Authority. The generator must be activated by an automatic transfer switch that senses a power failure and starts the generator within one minute. When power returns to normal, the generator will go off line and begin a five minute cool down run at no load. The generator will have the following minimum equipment: gauges for oil pressure, water jacket temperature, generator output voltage, amperage and frequency, battery condition. Fail-safe protection devices for low oil pressure, high water temperature, overspeed, overcrank and improper generator output shall be provided. A battery charging system which incorporates a low charge maintenance current and a fast charge is provided. The variation in charging rates is to be automatic with a manual override.

Each pumping station must be on a full-size lot based on the existing zoning ordinance. The Authority reserves the right to increase or decrease said lot size requirements. The plans and specifications must include provision for lawns, shrubbery, paved drive and concrete walk. The entire property must be surrounded by a 6-foot chain link fence. Truck and pedestrian gates shall be provided.

The paved drive shall have a total thickness of 8 inches, being 6 inches of compacted road gravel and a 2 inch FABC finished surface. The walk shall be 4 inch minimum thickness 3000 psi concrete.

Automatic sound alarms shall be installed independent of station power and they shall give warning of high and low water and power failure. These alarms shall be connected to the Authority's master alarm panel via an automatic telephone dialing system by RACO-VERBATIM or approved equal.

The wet well level shall be monitored and maintained by a well type monometer with mercury media that makes and breaks a series of electrical contacts such as is manufactured by EG Pump Controls, Jacksonville, Florida or approved equal.

Complete repair tools and accessories shall be provided with the pumps. Space must be provided in the superstructure for housing generator, electrical equipment and odor control equipment. All piping must be provided. If the time of travel at the rate of 2 feet per second of the sewage from the most remote point to the O.C.E.A. connection is equal to or greater than 2 hours, a sodium hyperchlorite

system must be furnished. Adequate light, ventilation, heat, air conditioning and fresh water supply with hose outlets shall be provided. An approved backflow prevention valve must be installed on the potable water supply. Detailed operational costs of the pumping station must be submitted with the engineer's estimate.

The Authority may determine additional pump station requirements from time to time.

E. Pump-Out Facilities

Prior to construction of pump-out facilities for sewage stored in holding tank on boats, recreation vehicles or otherwise, application shall be made to the Authority for approvals in accordance with the procedures and fee schedules provided by the Authority for any real estate development. Detailed plans and specifications shall be submitted for review and approval in accordance with existing Rules and Regulations.

Pump-out facilities may be either permanently installed or portable, subject to review and approval by the Authority.

The user of any such facility shall not introduce any material into the sanitary sewer collection system that may be detrimental to the treatment process or the collection system.

All pump-out facilities shall provide pre-treatment of the sewage to eliminate odors or hydrogen sulfide content that exceed the standards as established by the Ocean County Utilities Authority. Pre-treatment processes may include aeration, chlorination or the use of chemical oxidants such as hydrogen peroxide, potassium permanganate or ozone.

If the pump-out facility requires a pump or lift station to transport the sewage to the Authority's collection system, then the pump or lift station must be separate and independent from the "pump-out" facility which shall not be used for the dual purpose of emptying the holding tank and transporting sewage to the collection system.

A meter device or hour run meter totalizer must be installed on the pump for billing purposes. Billing will be based on gallonage at the current sewer rate as established and changed from time to time by the Authority. If applicable, an additional surcharge for suspended solids content in excess of what is allowed may be levied.

All pump-out facilities must be inspected and approved by the Township Plumbing and Building Inspection Departments. Backflow prevention devices

shall be installed to protect the potable water supply at pump-out stations. Safety features must be installed to prevent sewage spills due to pump failure or when disconnecting the pump-out hose. A means shall be provided to flush out the entire system after each use.

The Authority shall have the right to terminate service if at any time the sewage quality is not in conformity with its regulations

The force main connection to the sanitary sewer shall include a curb stop shutoff at the point of discharge. The make, model, and a detailed specification of the pump-out facility shall be submitted to the Authority's Engineer for approval. The facility shall be manufactured by united McGill Corporation or approved equal.

The property owner shall be responsible to own, operate and maintain the sewage pump-out facility including compliance with all State regulations as may be promulgated from time to time. Authority personnel shall be granted access for inspection of the condition and operation of the sewage pump-out facility. To prevent damage to or impairment of the Authority's sanitary sewer system, the Authority reserves the right to specify certain required operation and maintenance procedures from time to time that the property owner shall be obligated to comply with. The Authority shall bill the property owner for the usage of the sewage pump-out facility based on the metered flow. These requirements shall be incorporated into the property deed. The Applicant shall submit a copy of the sample property deed to the Authority at least thirty (30) days prior to construction. The Applicant shall furnish the Authority with a copy of the filed property deed upon completion of the project.

A separate sewer connection fee will be submitted for each sewage pump-out facility. For the purposes of the connection fee, the connection will be rated as a single equivalent unit or any other fee that may be in effect at the time of application.

F. Grinder Pumps

All grinder pump systems are an integral part of a master sanitary system. Authorized Authority personnel shall be granted unlimited access for inspection purposes.

All existing grinder pump systems owned by property owners shall be operated, maintained, repaired, and/or replaced at the sole cost of the property owners of record. The grinder pump systems shall be operated in accordance with the standards set forth by the Authority.

Should an Applicant be given an approval permitting the installation of a grinder pump system(s), it shall be owned, operated, maintained, repaired, and/or

replaced by the property owner of record. The approval shall be subject to the signing of an agreement between the Authority and the Applicant (property owner) which shall be recorded in the Ocean County Clerk's Office. The agreement shall be a covenant that runs with the land. The cost of recording shall be paid by the Applicant and proof of recording shall be a prerequisite to final connection approval(s).

All existing grinder pump systems owned by the Authority shall be operated at the sole cost of the property owners in accordance with the standards set forth by the Authority pursuant to an agreement between the property owner and the Authority.

G. Treatment Plant

No general rules can be formulated for the design of treatment plants and each case shall be considered individually, based upon the discharge of effluent. The type and method of treatment must effect at all times a minimum reduction of 95% in biochemical oxygen demand (BOD) of the received sewage at the plant, the BOD of the effluent not to exceed 15 parts per millions (15 ppm) or as specified in the N.J.P.D.E.S. permit.

Treatment plants should be located a minimum of 1000 feet from the nearest dwelling or other building. Exceptions to this rule may be made depending on the type of treatment to be used, but in no case will a treatment plant structure be permitted less than 250 feet from the boundary line of the treatment plant property.

Treatment plant plans and specifications must include provisions for lawns, shrubbery, paved roads, and sidewalks and the entire property must be surrounded by 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. Any such treatment plant must conform to all applicable County, State and Federal Regulatory Agency requirements.

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

H. Oversizing

When plans for future development necessitate oversizing or grade changes, the Authority may enter into an agreement with the Applicant to address the fair share of the costs of improvements not required for the proposed development.

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

If the Authority requires the installation of a pumping station of greater capacity and/or depth 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.

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.

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. Sewer Mains

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

For bridge crossings, inverted siphons or other special installations, pipe material shall be ductile iron pipe.

a. Reinforced Concrete Pipe

Reinforced concrete pipe shall be used in sizes 24" and larger, unless approved by the Authority, and shall meet all the requirements of ASTM C76. All pipe shall be Class III strength installed with Class C Ordinary Bedding, except in the following conditions where stronger pipe may be required:

1. For depths less than three (3) feet, measured from the top of the pipe, installed under traffic areas, Marston Class IV pipe shall be required.
2. The presence of clay soils, poor bedding conditions, or other unusual loading conditions shall be given special consideration and the developer shall submit an engineering analysis to the municipality or authority for approval.
3. The following trench depths are maximum for the pipe classes noted, installed with Class C, Ordinary Bedding.

Pipe Diameter (Inches)	Maximum Width of Trench at Top of Pipe	Depth - Feet Pipe Class	
		IV	V
12"	3' - 0'	6.5	18.0
15"	3' - 8"	6.0	14.0

18"	4' - 0"	7.0	16.0
21"	4' - 3"	8.5	17.5
24"	4' - 6"	9.0	20.0
30"	5' - 0"	10.5	22.5
36"	5' - 8"	11.0	22.0

4. The existence of clayey soils and other unusual loading conditions not covered by Paragraphs a or b above shall be given special consideration.

b. Ductile Iron Pipe

Ductile iron pipe shall be centrifugally cast in metal or sand-lined molds to ANSI/AWWA C151/A21.51. The joint shall be of a type that employs a single, elongated, grooved gasket to effect the joint seal. Pipe should be furnished with flanges where connections to flange fittings are required. Pipe shall be a minimum of Class 50. The outside of the pipe shall be coated with a uniform thickness of hot applied coal tar coating; the inside shall be lined with cement in accordance with ANSI/AWWA C104/A21.4. Ductile iron pipe shall be installed with Class C, Ordinary Bedding, when site conditions allow. In corrosive soils or on sewers that receive discharge from a force main where hydrogen sulfide is present, ductile iron pipe with polyethylene coating, which protects the interior and exterior of the pipe, shall be used.

The Authority reserved the right to require this type of installation if an investigation of soil conditions by the Ductile Iron Pipe Research Institute or other qualified laboratory indicates it is necessary. Additional expenses incurred will be the obligation of the Applicant.

c. Polyvinyl Chloride Pipe

PVC sewer pipe shall have bell and spigot ends and O-ring rubber gasketed joints. PVC pipe and fittings shall conform to ASTM D3034, with a minimum wall thickness designation of SDR 35.

The plastic material from which the pipe and fittings are extruded shall be impact types of PVC, unplasticized, having high mechanical strength and maximum chemical resistance conforming to Type 1, Grade 1 of the specification for rigid polyvinyl chloride compounds, ASTM D1784.

Pipe shall be free from defects, such as bubbles or other imperfections, in accordance with accepted commercial practice. Test results demonstrating that the pipe meets ASTM D2444 for impact and ASTM D2321 for deflection and pipe stiffness, shall be provided when requested by the municipality or utility authority.

Joints shall conform to ASTM D3212. Rubber ring gaskets shall conform to ASTM F477. The gasket shall be the sole element depended upon to make the joint watertight.

The pipe shall be installed as specified in ASTM D2321. In no case shall less than a Class III material be used for bedding and haunching material, unless approved in writing by the municipal engineer or utility authority engineer. When installing pipe in unstable soil or excessive ground water, a determination regarding special precautions, such as poured concrete slabs, shall be made by the design engineer for review and approval by the authority engineer.

Trench cross sections shall comply with the bedding details contained herein.

Rubber ring gaskets shall be manufactured as per ASTM D1869, and shall meet physical and chemical test requirements of federal specification ZZ-R-601a. The gasket shall be the sole element dependent upon to make the joint watertight.

The pipe shall be installed as specified as ASTM D2321. In no case, shall less than a Class III material be used for bedding material. Particular attention should be given to the special requirements for installing pipe in unstable soil or excessive ground water.

No pipe shall be installed with less than four (4) feet of cover without special bedding and the wall thickness of the pipe shall be increased to the designation of SDR 18.

Acrylonitrile Butadiene Styrene (ABS) sewer pipe and fittings shall conform to ASTM D2661, with a wall thickness designation of Schedule 40. Solvent cement for ABS pipe and fittings shall conform to ASTM D2235.

For other than PVC pipe, pipe and manhole bedding and backfill shall be provided as specified in "Design and Construction of Sanitary and Storm Sewers, ASCE Manual on Engineering Practice No. 37," prepared by the Joint Committee on the American Society of Civil Engineers and the Water Pollution Control Federation, New York, 1969. Any pipe material not covered by this manual shall be installed in accordance with the manufacturer's recommendations.

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

subject to review and approval of the Authority Engineer.

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 methods for the specified material.

2. Joints

a. Reinforced Concrete

Steel and rubber gasket equal to Interpace specification SP-32.

b. Ductile Iron

Rubber gasket equal to Tyton.

c. PVC Pipe

Elastomeric gasket joint equivalent to Certain-Teed Fluid-Tite, Johns-Manville Ring-Tite, or Precision Plastic Pipe's E-Z Seal.

d. Couplings, Connectors and Adaptors

All couplings, connectors and adaptors shall be as manufactured by Dresser or approved equal. Fernco type connectors are not permitted for permanent installations, but may be used for temporary repair work.

3. Cushions

a. Class C Ordinary Bedding

Class C Ordinary Bedding shall be defined as that method of bedding sewers in which the sewer is bedded on approved granular material with ordinary care in an earth foundation shaped in undisturbed earth so as to fit the lower part of the sewer exterior with reasonable closeness for a width of at least 50% of the sewer diameter, and in which the remainder of the sewer is surrounded to a height of at least 0.5 feet above its top with approved granular materials, shovel placed and tamped to completely fill all spaces under and adjacent to the sewer, all under the general direction of a competent engineer and with frequent inspection by a competent inspector during the course of construction.

b. Class B First Class Bedding

Class B First Class Bedding shall be utilized where applicable as approved by the Engineer. The bedding shall conform to the detail shown herein.

c. Concrete Cradle Bedding

Concrete Cradle Bedding is that method of bedding sewers in which the lower part of the sewer exterior is bedded in 3,000 psi. concrete, without reinforcement, having a minimum thickness under the pipe of one-fourth its nominal internal diameter (4" minimum) and extending upward to a height equal to one-fourth of the nominal outside diameter.

d. Concrete Encased Pipe Bedding

Concrete Encased Pipe Bedding is that method of bedding sewers in which the entire sewer exterior is encased in 3,000 psi. concrete or better, minimum 6 inches of concrete all around.

4. Manholes

Manholes shall comply with the standards of ASCE Manual on Engineering Practice No. 37.

Manholes shall be precast concrete or concrete block. Concrete block shall be coated with two (2) coats of portland cement mortar.

Manholes shall be provided at ends of sewer lines, at intersections and at changes of grade or alignment. Distances shall not exceed 400 feet. Where sewer service connections enter manholes, and the difference in crown elevation between the incoming and outgoing pipes is equal to or greater than 2 feet, drop pipes shall be provided and drop manholes shall be built.

If precast manhole barrels and cones are used, they shall conform to ASTM C478, with round rubber gasketed joints conforming to ASTM C361 and ASTM C443. Maximum absorption shall be nine (9%) percent, in accordance with ASTM C478, method A. The entire outside surface of the manhole shall be coated with a bituminous waterproofing material acceptable to the Authority. Cracked manholes shall not be used. The top riser section of precast manholes shall terminate less than one (1) foot below the finished grade to provide for proper adjustment.

Masonry brick, concrete block, or half rings may be used to make vertical adjustments to rims.

Where pipe size varies, crowns of pipes shall be matched, except in special

conditions, as required by applicable NJDEP rules.

Manhole foundations shall be constructed of Class D concrete as set forth in the Standard Specifications of the New Jersey Highway Department for Road and Bridge Construction. Walls shall be constructed according to these specifications.

All manholes whether precast or built up of concrete block must be sealed with two coats of bituminous, waterproofing material. The material shall be "Koppers-Bitumastic #300-M," Koppers Co., Newark, N.J.; "Tremco 121 Foundation Coating" by Tremco Manufacturing Co., Cleveland, Ohio; or an approved equal. The waterproofing material shall be applied in accordance with the manufacturers instructions. Polyplastic alloy and epoxy mixtures of approved types may be acceptable "as equals".

Manhole frames and covers shall be of cast iron and shall conform to ASTM A48, Class30, and shall be suitable for H-20 loading capacity. All manhole covers in unpaved rights-of-way or in remote areas shall be provided with a locking device, as specified by the Authority. The letters "LEHMUA" shall be cast integrally into the manhole cover in 2" raised letters.

Typical manhole frame and cover desired is a Campbell Foundry #1202 or approved equal. Manhole details, manhole frames and covers shown herein. Approved equal covers and frames must be dimensionally interchangeable with the Campbell #1202 assembly.

Where watertight and low profile frames and covers are utilized, they shall conform to ASTM C923. Manholes shall be supplied with flexible, watertight adaptors, such as inserts or gaskets, suitable for the pipe materials used.

Industrial Discharge Control Manhole

If it is determined by the Authority that the connected user discharges industrial type effluent, then a special manhole will be required. The manhole will be located on the user's property, prior to connection to the Authority's system. The manhole will contain a removable, weir slide gate, for purposes of flow measurement, and sample taking as shown in Plate No. 22.

Inside Drop Manholes

In those cases where inside drop manhole is allowed to accommodate a change in elevations (inverts), the drop may be internal if the manhole is five (5') feet inside diameter and approved by the Authority in the final application phase.

The inside drop pipe must be the next larger size diameter available. Example: An 8" collection pipe uses a 10" drop and a 10" collection pipe uses a 12" drop.

The drop pipe must be securely fastened to the manhole wall with stainless steel straps and bolts every three feet. The drop section must terminate in such a fashion that sewage is not splashed about. Entry shall be smooth, and the use of a flared channel and elbow is mandatory.

Ladder access shall not be hampered by the drop.

Connections to an Existing Manhole

The following requirements must be met when connecting to an existing manhole, whether it is owned by the Authority or the Ocean County Utilities Authority:

An inside drop connection shall be made with the following additions:

- a. Drop pipe must be into manhole bench such that the top of the pipe is three (3) inches below existing bench, to allow for three inches of concrete on top of pipe.
- b. The maximum distance between the invert of the influent pipe and invert of the manhole shall not exceed 10 feet.
- c. When drop pipe is over 15 inch diameter, it must be filament wound or fiber reinforced pressure pipe of 125 psi. rating.

During installation of the gravity sanitary sewer, the contractor shall allow no debris to enter the main and no flushing of the collection system into the existing main will be permitted. A concrete bulkhead is to be temporarily installed in the connecting manhole.

The owner of the manhole shall have the final say as to the approval or disapproval of any work done by the contractor when making the connection.

Any settlement occurring over the connection made to the manhole will be the responsibility of the contractor.

The owner of the manhole is to receive at least 48 hours notice prior to any work done on the connection. No work on an OCUA interceptor shall be covered until it has been approved by the OCUA.

If a stub or knockout bulkhead has not been provided at the manhole, the connection must be made with a coring machine and a watertight neoprene gasket suitable for use with sanitary sewage, with stainless steel clamps. The

use of pneumatic hammers, chipping guns, sledge hammers, or other means of providing a connection are not acceptable.

Outside Drop Manholes

Outside drop manholes shall be the typical drop type connection. All elbows and tees are to be made for sanitary sewage use and have a sweep form as opposed to a sharp tee entry. The drop assembly is to be secured with concrete to the manhole assembly so they will settle as a unit.

Manhole Accessibility

All manholes located in easements or off the paved right-of-way shall be accessible for servicing by the Authority VAC vehicle. The Applicant is to submit, in writing, for the approval of the Authority Engineer, his procedure for stabilizing the access way.

5. Service Connections, Laterals and Clean-outs

Service connections, laterals and clean-outs shall comply with the following:

- a. The house connection or lateral from the street main to the clean-out shall be considered an integral part of the sanitary sewer system. The type of material used for the house connection shall be as follows: four (4) inch cast iron soil pipe, extra heavy; four (4) inch PVC pipe, (Schedule 40; four (4) inch ABS plastic pipe, SDR 35; or four (4) inch ductile iron pipe. Common laterals for multi-family units shall be designed to have adequate conveyance capacity.
- b. Wye connections shall be the same material as the sewer main. Saddles shall be used only for connection to an existing main.
- c. Bends in house connection lines shall be made using standard fittings. A riser with a clean-out shall be provided in the lateral between the edge of the pavement and property line or within a designated easement as determined by the municipality.
- d. Inspection clean-outs or observation tees within the easement or right-of-way shall be fitted with either a metallic cap or a nonmetal cap fitted with a metallic plug that is suitable for locating the clean-out. Caps shall have a depressed or inverted nut. The inspection clean-out or observation tee shall be placed between the curb or edge of pavement and property line or within a designated easement and not in driveways or sidewalks.
- e. Connections beyond the clean-out are under the jurisdiction of the

Plumbing Subcode of the Uniform Construction Code (N.J.A.C. 5:23-3.15) through the Plumbing Subcode official. The pipe size and specifications shall comply with the regulations and requirements of the Plumbing Subcode of the Uniform Construction Code.

- f. As-built drawings that include the location of plumbing wyes, as supplied by the contractor, shall be submitted to the Authority Engineer. The connection must be made by use of a wye at the sewer main, thence in a horizontal direction to the building lateral. The service connection clean-out is to use a wye and a 45° elbow or a 45° tee-wye combination to connect the riser pipe. Most pipe diameters are four inch; however, a larger size might be required where the four inch will not accommodate the flow.

The location of the service connection is to be shown by cutting an “H” into the curb.

A minimum pitch of 1/4 inch per foot is to be used on four inch service connections. Pipe material is to be SDR-35 with gasket type push-on coupling. Metallic clean-out plugs must be used at the curb clean-out riser cap so the plug may be located with a metal detector.

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 approved by the Authority.

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

B. Testing

All sewers shall be subjected to either an infiltration or exfiltration test. Exfiltration tests shall be conducted in lieu of infiltration tests when the pipe has been laid above the ground water level. The tests shall be performed between two manholes or as otherwise directed by the Authority or its authorized

representative and shall include all related sanitary sewer collection facilities

including the service connections. At the discretion of the Authority, leakage detection by an air test method may be specified. The contractor shall furnish all labor, material and equipment necessary for the testing.

Exfiltration tests shall be under at least five-foot head or a pressure corresponding to a head equal to the depth of the lower manhole of the section under test.

For the air test method, the Applicant shall isolate the section of pipe to be tested and install a plug at each end of pipe at the manholes. Plug ends of all branches, service connections and wyes. Brace all plugs securely. The plugs at each end of the pipe at the manholes must have provisions for connecting an air hose. Connect one end of the air hose to the plug, the other to a portable air compressor with pressure regulators and gauges. The pressure regulators are used to control the rate at which air flows to the test section, and to monitor air pressure in the pipe. Supply air to the pipe section, monitoring it so that the pressure inside the pipe does not exceed 5.0 psig.

When pressure reached 4.0 psig throttle the air supply so that internal pressure is maintained between 4.0 and 3.5 psig for at least two minutes. This allows time for the temperature of the air to come to equilibrium with pipe walls.

After temperature has been allowed to stabilize for two minutes, disconnect the air supply and allow pressure to decrease to 3.5 psig. At 3.5 psig start a stop watch to determine the time required for pressure to drop to 2.5 psig. The time required for a loss of 1.0 psig at an average pressure of 3.0 psig can be used to compute the rate of air loss.

The following table may be used to determine the maximum allowable time for pressure to drop 1.0 psig for various pipe.

<u>Pipe Size</u>	<u>Minutes</u>	<u>Seconds</u>
6"	2	15
8"	3	57
10"	4	43
12"	5	40
15"	7	05

Allowable infiltration or exfiltration shall not exceed a rate of 50 gallons per mile, per inch of diameter of sewer per 24 hours. Any pipe, joint or other part of the sewer constructed found to show either infiltration or exfiltration in excess of the permissible limit shall be repaired, or removed and replaced, before proceeding

with construction.

When using PVC piping, the allowable deflection shall not exceed 5%. Measurements shall be made using a "GO-NO-GO" mandrel where necessary in the opinion of the Authority's Engineer.

All force mains shall be pressure tested to 100 psig for 2 hours with leakage not to exceed 2 gallons for 2 hours per 1,000 feet of pipe. Ductile Iron Pipe, Class 50 is to be used for all force mains - all elbows are to be 45° or less in configuration.

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. General

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. A temporary leak-proof bulkhead type plug shall be installed in the upstream (inlet) side of the manhole furthest downstream in any sewer main or branch under construction and shall remain intact and unloosened until written permission is received from the Authority or its authorized representative, to remove same.

This permission will not be granted until each section of the sewer has been cleaned and flushed in a manner acceptable to the Authority or its authorized 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. 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.

D. 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 collection system and all facilities as constructed.

The "as-built" plans shall show the exact location of the sewer mains, sewer service connections and manholes by stationing from the nearest downstream sanitary sewer manhole. In addition, the "as-built" plan for a dry system must include the elevation of the invert of the end of the service connection, elevation of the top of the curb clean-out and building finished floor elevation.

E. Use of 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 system for the discharge of sump pumps, or drainage from cellar drains, leaders, downspouts, drainage tile, cellar pits or septic tanks or septic tank trucks or any other use for which the system was not specifically designed shall be an "Illegal Use of System," and is strictly prohibited.

Customers of the Authority may utilize garbage disposal systems within their property, but not only with approval of the Authority and the Plumbing Department of the Township of Little Egg Harbor. All use of garbage disposal systems shall be charged and annual usage fee as prescribed, from time to time, by the Authority's adoption of an annual rate structure.

All uses set forth hereinabove shall be subject to penalty and/or fines as may be prescribed by law, but will be a fine of not less than \$50.00 per year, or any part thereof, for each violation herein.

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 Surety Maintenance Bond (or irrevocable letter of credit) 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.

