

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

REVISED APRIL 2022

THE LITTLE EGG HARBOR
MUNICIPAL UTILITIES AUTHORITY
823 RADIO ROAD
LITTLE EGG HARBOR TOWNSHIP NEW JERSEY

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RESOLUTION #2022-15

RESOLUTION OF THE LITTLE EGG HARBOR MUNICIPAL UTILITIES AUTHORITY, COUNTY OF OCEAN, STATE OF NEW JERSEY, AUTHORIZING APPROVAL AND ACCEPTANCE OF RULES AND REGULATIONS GOVERNING INSTALLATION AND MAINTENANCE OF THE SANITARY SEWER SYSTEM

WHEREAS, the Little Egg Harbor Municipal Utilities Authority (hereinafter referred to as the "Authority") is empowered pursuant to the provisions of N.J.S.A. 40:14B-1 et seq. to adopt, implement and from time to time modify Rules and Regulations governing the installation and maintenance of the Authority's sanitary sewer facilities; and

WHEREAS, the Authority has authorized its Executive Director and Superintendent to prepare Rules and Regulations governing the maintenance and installation of the Authority's sanitary sewer facilities; and

WHEREAS, the Authority has received and carefully considered the final draft of proposed Rules and Regulations governing the maintenance and installation of its sanitary sewer facilities with an effective date of April 13th, 2022; and

WHEREAS, the Authority believes that the proposed Rules and Regulations are acceptable and should be adopted and implemented by the Authority;

NOW, THEREFORE, BE IT RESOLVED this 12th day of April 2022 by the Little Egg Harbor Municipal Utilities Authority as follows:

1 - The Authority accepts and adopts the proposed Rules and Regulations governing the installation and maintenance of sanitary sewer facilities, which Rules and Regulations bear an effective date of April 13th, 2022.

2 - The Authority authorizes and directs the Chairman, Secretary, and Executive Director to execute any and all necessary documents in order to implement the intent of this Resolution.

CERTIFICATION

I certify that the foregoing Resolution was duly adopted by the Little Egg Harbor Municipal Utilities Authority at a meeting being held on the 12th day of April 2022, a quorum being present and voting in the majority.

Kenneth Miller, Secretary

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 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;

- a. Be in such quantity as to impair or exceed the hydraulic capacity of such facilities as determined by the Authority or Authority's Engineer.
- b. Contain any amount of solid matter that will prevent self-scouring flow when carried in sewers installed at the minimum design values.
- c. Be of such a nature as to create explosive conditions.
- d. 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 the returned check fee as per Authority rules.

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. 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:

- a. Installation of individual septic systems are proposed.
- b. Installation of individual septic systems together with a comprehensive system of "Dry Lines" are proposed.
- c. An active comprehensive sanitary sewer collection system is proposed.

Submission Requirements for Preliminary Approval

A complete application for Preliminary Approval shall consist of:

- a. Completed Preliminary Application form, original and two (2) copies are to be provided to the Authority.
- b. Application fee of \$500.00
- c. General location plan and sketch plan or subdivision plat, indicating streets and tax block and lot numbers, 3 copies are to be provided to the Authority.

Authority Action on Preliminary Applications

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

Individual septic systems will be permitted.

Individual sewage systems will be permitted together with the installation of comprehensive system of “Dry Lines”.

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 apply 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.

- a. Completed Tentative Application Form, original and two (2) copies.
- b. 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. The minimum fee shall be \$1,000.00.
- c. Plans of all proposed sewer mains including service connections, manholes, etc., three (3) copies are to be provided to the Authority, signed, and sealed by a licensed engineer.
- d. Plans for any booster pumping stations, and/or treatment plants, if any, three (3) copies.
- e. Engineer’s Report, three (3) copies.

- f. An application form filled out in the name of the Authority to the New Jersey Department of Environmental Protection, with applicable fee.
- g. 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 act 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.

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 or its 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

- a. One completed Final Application Form, original and two (2) copies.
- b. 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 \$500.00.
- c. Final plans of all proposed sewer mains, service connections, manholes, etc. three (3) copies, signed and sealed by a licensed engineer.
- d. Final construction plans for pumping stations, and/or treatment plants if any, three (3) copies signed and sealed, by a licensed engineer.
- e. Detailed estimate of construction costs.

Authority Action on Final Applications

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

Final approval shall expire two (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

Completed Tentative Application Form, original and two (2) copies. 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.

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 therefore 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. 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:

- a. 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.

- b. 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 (_____). All topographical symbols and conventions shall be the same as those of the U.S. Geological Survey.
- c. Elevations - All permanent benchmarks 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.
- d. 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 clearly show 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 by the Authority. 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 but not be limited to, all information required by the New Jersey Department of Environmental Protection, the Ocean County Utilities Authority, and all information setting forth the basis of design.

J. Proof of Title

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. 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 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.

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. SANITARY SEWER 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 or Authority's Engineer for review and 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 two (2) feet per second and a maximum velocity of ten (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 three (3) feet per second (3fps) and a maximum velocity of six (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 or 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 stainless steel chains with stainless steel "D" rings placed every six (6) feet attached 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 two (2) feet per second at normal pumping rate.

All pumping stations must be the submersible pump type and must be approved by the Authority. No other type pumping station shall be approved by the Authority. The dimensions of the valve pit shall be determined by the Authority or Authority's Engineer upon review of plans. The valve pit shall be provided with means of a bypass, adequate entrances, ventilation, and drainage. All confined space areas where access is required shall be provided with gas monitors acceptable to the Authority or 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 offline 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 provisions 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 12 inches, being 6 inches of compacted road gravel and be able to support a 4-inch Base and 2-inch 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 with a minimum of 16 channels, or equal.

The wet well level shall be monitored and maintained by a well type level transducer (4-20ma) as a primary and with non-mercury backup floats to operate the pumps and a dial for emergency high level alarm.

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.U.A. connection is equal to or greater than 2 hours, a Ferrous Chloride solution shall be used.

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 Department. 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 or 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 and O.C.U.A.

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. Effluent pumps will not be approved by the Authority. 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).

G. 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 Authority or its Engineer's review and Authority inspection fees 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.

H. Grease Traps

The Authority has the right to perform site inspections of the grease trap during normal business hours.

Grease traps shall be installed at motels, cafeterias, restaurants, hospitals, schools, and other institutions having large volumes of kitchen wastewater. Grease traps shall be located as close to the source of the wastewater as possible.

Grease traps at restaurants shall have a minimum capacity of 750 gallons or as determined by the following equation:

$$\text{Grease trap Size} = D \times GL \times ST \times HR/2 \times LF$$

Where:

D	=	Number of seats in the dining area
GL	=	5 Gallons (wastewater per meal)
ST	=	Storage capacity factor = 2.5
HR	=	Number of hours open
LF	=	Loading factor 0.5 – 1.25 (LEHMUA will determine the loading Factor)

Grease traps at hospitals shall have a minimum capacity of 750 gallons or as determined by the following equation:

$$\text{Grease trap Size} = M \times GL \times ST \times LF$$

Where:

M	=	Meals per day
GL	=	4.5 Gallons (wastewater per meal)
ST	=	Storage capacity factor = 2.5
LF	=	Loading factor 0.5 – 1.25 (LEHMUA will determine the loading Factor)

All dishwasher water should either be cooled or diverted around the grease trap. All grease traps shall be cleaned after seventy-five percent (75%) of the unit's grease retention capacity has been reached. Grease retention capacity is defined as the amount of grease (pounds) that the trap can hold before its average efficiency drops below ninety percent (90%).

Monitoring and Reporting Requirements on Non-Residential Users

Non-residential users shall abide by these Rules and Regulations as they are in existence now and as they may be modified from time to time. These rules and regulations are incorporated by reference into each permit and the Non-Residential User shall be bound thereby.

Non-Residential users shall comply with all laws and regulations of the State of New Jersey and the United States concerning all sewage and waste disposal discharged into the LEHMUA's system.

The non-residential user shall properly dispose of and maintain appropriate written record of disposal of all oil interceptors or grease trap oils and grease. The non-residential user shall bear all costs associated with this disposal and record keeping.

Written procedures for the removal and disposal of waste oil and grease from the oil interceptor or grease trap shall be filed with the LEHMUA within forty-five (45) days of the issuance of a permit, maintained posted on-site in close proximity to such unit(s), and followed at all times.

The non-residential user shall physically inspect the grease trap or oil interceptor unit and all visible piping and appurtenances no less than monthly and maintain a posted written record of such inspection including date, time and individual completing the task.

During the month of April of each year, the non-residential user shall file with the LEHMUA copies of all invoices paid in the preceding calendar year to maintain the grease trap or oil interceptor and appurtenances, including invoices for disposal of accumulated oil, grease, and solids.

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 deemed to be "Domestic" and manufactured in the United States. 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, and, in some cases double casing may be required.

2. Reinforced Concrete Pipe

Reinforced concrete pipe shall be used in sizes 24" and larger, unless approved by the Authority or its Engineer, 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 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	
		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.

a. 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 affect 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.

b. 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 or 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.

c. Force Mains

Force mains for grinder pumps shall be minimum diameter 1¼" P.V.C. or HDPE SDR-11 P.V.C. The force main connection shall have a curb stop shutoff at the property line to be determined by the engineer.

d. Joints

- i. Reinforced Concrete-Steel and rubber gasket equal to Interpace specification SP-32.
- ii. Ductile Iron-Rubber gasket equal to Tyton.
- iii. PVC Pipe-Elastomeric gasket joints such as Certain-Teed Fluid-Tite, Johns-Manville Ring-Tite, Precision Plastic Pipe's E-Z Seal; or equal.
- iv. Couplings, Connectors and Adaptors-All couplings, connectors and adaptors shall be as manufactured by Dresser or equal. Fernco type connectors are not permitted for permanent installations but may be used for temporary repair work.

e. Cushions

- i. 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.
- ii. Class B First Class Bedding-Class B First Class Bedding shall be utilized where applicable as approved by Authority or Authority Engineer. The bedding shall conform to the detail shown herein.
- iii. 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.
- iv. 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.

f. Manholes

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

Manholes shall be precast concrete only. The use of concrete block is not permitted to construct a manhole.

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, an outside drop shall be provided. Inside drops are not permitted.

Precast manhole barrels and cones 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 or concrete block 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 precast manholes 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 equal. The waterproofing material shall be applied in accordance with the manufacturer's 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 equal. Manhole derails, manhole frames and covers shown herein. 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

The Authority prohibits the use of inside drop manholes.

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:

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, sledgehammers, 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, his procedure for stabilizing the access way.

g. Service Connections, Laterals and Clean-outs

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

- i. 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.
- ii. Wye connections shall be the same material as the sewer main. Saddles shall be used only for connection to an existing main.
- iii. 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.
- iv. Inspection clean-outs or observation tees within the easement or right-of-way shall be fitted with a counter sunk brass cap for locating the clean-out. 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. A 5/8" diameter, 18" long rebar shall be installed with the clean-out to make the location of such detectable with the Authority equipment.
- v. 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.

As-built drawings that include the location of plumbing wyes, as supplied by the contractor, shall be submitted to the Authority. 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. Brass 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 must be installed along the off-site main to serve all individual properties along the route. The Applicant shall submit to the Authority the developer’s proposed plan for the installation of the off-site service connections for the Authority or 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 the responsibility of the developer.

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.

h. Tracer Wire and Tape

All non-metallic sewer pipe shall be traced with #8AWG High Strength green jacketed tracer wire as manufactured by Copperhead Industries, or equal. Tracer wire insulation shall be HDPE or HMWPE. The wire shall be anchored to all manholes, mains, and services so that it is electrically continuous. Contractor must demonstrate wire is electrically continuous before final acceptance.

Any splicing of tracer wire shall be exothermically welded together and watertight. A metallic aluminum detectable tape bounded on both sides with plastic film shall be placed as per manufacturer’s specifications. The tape shall be Terra Tape as manufactured by Reef Industries, or equal and shall be three (3) inches wide with 1-1/2 inch lettering which states “Buried Sewer Main Below” for all new sewer mains. The lettering shall repeat every 21 inches.

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

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 stopwatch 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:

- a. Cash.
- b. 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.
- c. 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.
- d. 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.

- a. 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 approved unit price schedule.

The Authority or its Engineer shall prepare an itemized cost estimate of the improvements covered by the performance guarantee and 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.

- b. 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.

- c. 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.).
- d. 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.

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 prepare, in accordance with the itemized estimate of cost prepared by the Authority or its 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. The request shall indicate which improvements have been completed and which improvements remain uncompleted in the judgment of the Applicant. Thereupon the Authority shall inspect all improvements covered by the Applicant’s request and shall file a detailed list and report, in writing, 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 or its 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 or its 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 or its 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 or its 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 or its 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 or its 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.

- a. 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.
- b. 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.
- c. 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 or its 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 or its Engineer according to the method of calculation set forth herein.

If the Authority or its 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 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 or its 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 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 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 or its Engineer.

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 any required payments to professionals for services rendered for review of applications for projects, review and preparation of documents or other purposes, if applicable. Inspection of improvements will be performed by the Authority. If the Authority required of the Applicant a deposit toward anticipated Authority expenses for these professional services or Authority Inspections, 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 or Authority 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 or Authority Inspections 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 or Inspector by (2) the number of hours spent by the respective professional or Inspector on review of the application for project or the Applicant's improvements, as the case may be. For professionals or inspections, the charge to the deposit shall be at the same rate as all other work of the same nature by the professional or inspector 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 or Inspections performed 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 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

Commercial Applicants, Development Applicants, Cell Carrier Lessee's, or Contractors performing work for Lessee's on Authority Water Tanks, Towers, Buildings, or other Infrastructure shall reimburse the Authority for all inspection fees for inspection of improvements, or maintenance.; 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, an amount based on number of anticipated in-house inspection man hours calculated by the authority, 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 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.

H. Inspection Fees

For individual property owners, there shall be a flat fee of \$500.00 for water inspections. If less than five (5) individual properties are owned, there will be a separate \$500.00 fee per property. No escrow will be established. This fee is due and payable to the Authority before work is to be performed. Notification to the Authority of 72-hours before the start of work is required for purposes of scheduling inspections. Furthermore, no work shall be performed after normal working hours or on weekends as this would incur overtime.

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 including all connection fees. 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 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. In the event of noncompliance, the Authority 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. 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 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.

B. Classification and Licensing Requirements

No person, corporation, company, or other entity is permitted to perform a tap of an Authority owned sewer main without written permission and approval from the Authority. A person or entity is required to provide at least three (3) current professional references to verify that they are qualified to perform the tap. In addition, proper equipment, insurance and experience is required. Without meeting all requirements and approval from the Authority, no work can be performed. Any person, corporation, company, or other entity who has obtained approval must be approved in writing each year by the Authority. The Authority has the right to revoke this approval upon written notification.

C. Cut and Caps

Cut and Caps can only be performed by a Licensed Plumber, or if not Licensed, a Contractor holding C056 DPMC Certification and Licensing as per Section VIII, Letter B. upon proper execution and submittal of all necessary forms and payment of fees due. The documentation upon final approval of a cut and cap will be submitted to the Township Construction Department for their records.

EXAMPLE OF NOTICE OF CLASSIFICATION REQUIRED

State of New Jersey
DEPARTMENT OF THE TREASURY
DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION
33 WEST STATE STREET-P.O. BOX 034 TRENTON, NJ 08625-0034

NOTICE OF CLASSIFICATION

In accordance with N.J.S.A., 18A:18A-27 et seq (Department of Education) and N.J.S.A. 52:35-1 (Department of the Treasury) and any rules and regulations issued pursuant hereto, you are notified of your classification to do State work for the Department (s) as previously noted.

Aggregate Amount	Trade(s) & License(s)	Effective Date	Expiration Date
\$10,000,000	C056- SEWER PIPING AND STORM DRAINS	05/20/2021	

Licenses associated with certain trades are on file with the Division of Property Management & Construction

- Current license information must be verified prior to bid award.
- A copy of the DPMC 701 Form (Total Amount of Uncompleted Projects) may be accessed from the DPMC website at <http://www.state.nj.us/treasury/dpmc>.

ANY ATTEMPT BY A CONTRACTOR TO ALTER OR MISREPRESENT ANY INFORMATION CONTAINED IN THIS FORM MAY RESULT IN PROSECUTION AND/OR DEBARMENT, SUSPENSION OR DISQUALIFICATION. INFORMATION ON AGGREGATE AMOUNTS CAN BE VERIFIED ON THE DPMC WEBSITE.

D. 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 or 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 or 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.

E. 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.

F. As-Built Plans

During construction, and before payment is authorized to a Contractor employed by the Authority, as-builts must be provided and approved after review by the Engineer and the Authority. The as-builts are to accurately reflect the infrastructure and improvements which are in-place, and for the quantities and values which the Contractor expects to receive payment for work completed to date. As-Builts are to be provided each time to verify that work completed is equal to the requested payment. Failure to provide the as-builts will delay payment to the Contractor until they are submitted and approved by the Engineer and the Authority.

After construction and before final acceptance by the Authority, the Applicant shall furnish three sets of sealed prints and as-built plans in CAD format or signed and sealed MYLAR.

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.

G. 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.

H. 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 an 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 \$150.00 per year, or any part thereof, for each violation herein.

I. Acceptance of Improvements by the Authority

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

- a. Obtain from the Authority or Authority's Engineer a certification that the construction has been completed in accordance with the approved plans and specifications.
- b. Submit deeds with metes and bounds description to all lands, easements, and improvements not previously transferred, together with title policies.
- c. 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.
- d. Submit copy of filed subdivision plat showing all easements containing the filed plat number and filing date.

- e. Submit surveys for sites and easements dedicated to the Authority and sealed by a licensed New Jersey Land Surveyor.
- f. Submit Bills of Sale for all equipment and facilities, including warranties from manufacturers of equipment.
- g. Submit releases from the general site contractor(s) who furnished and installed the facilities.
- h. Furnish three sets of sealed prints and as-builts in CAD format along with one (1) signed and sealed Mylar.
- i. 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.
- j. Provide an affidavit that all submittals are true, accurate and complete and that all conveyances are free from any lien or encumbrances.
- k. 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 and attorney for review and recommendation of approval to the Authority.

SEWER LATERAL CONNECTION PACKAGE

A. 4" & 6" Diameter Sewer Services, for single domestic line applications only. (Excluding development applications)

1. Property owner identifies whether new sewer laterals are needed to service the property. The owner may contact the Authority to check for prior installation.
2. Property owner contracts for the construction of the sewer lateral installation.
3. An application is to be completed and submitted to the LEHMUA. The application will be approved upon receipt of the following:
 - a) Form Utility Service Installation Application
 - b) Certificate of Insurance in which the LEHMUA and Authority Engineer (if applicable) are named as additional insured
 - c) Hold Harmless Agreement Indemnifying the LEHMUA and Authority Engineer (if applicable)
 - d) Copy of Valid Road Opening Permit
 - e) Underground mark-out confirmation number
 - f) Connection Fee Paid
4. The property owner or contractor is to contact the Authority 72 hours in advance of the scheduled excavation.
5. The contractor is to remove the pavement and excavate to the main, carefully exposing the pipe for the tap. The excavation is to meet OSHA and PEOSHA standards.
6. The Authority will supply up to a four (4) inch saddle for installation.
7. The property owner/contractor is to construct the service from the tap to the curb line and set the clean-out or curb stop and box. See attached specifications for acceptable curb stops.
8. The inspection services provided by the Authority will be for the excavation near pipelines, constructing the service line and backfilled 2' above the pipeline.
9. The property owner/contractor is responsible to backfill, compact, and pave the roadway in accordance with the Road Opening Permit from the Township, County, or State.

B. SEWER SERVICE LINE INSTALLATIONS PACKAGE

1. Utility Service Installation Package
2. Indemnification
3. Insurance Certificate Requirements

C. SEWER SERVICES

4" and 6" Diameter-Material and Installation Specifications
(SEE PLATES 17, 18, AND 19 WHICH ARE ATTACHED FOR FURTHER DETAIL)

a. Description

Sewer laterals shall include the excavation and backfill for and the construction of sanitary sewer laterals for conveying sanitary sewage from a private property to the sewer main, including all restoration.

b. Materials

1. Sewer Lateral Pipe Main to Curb

The sewer lateral pipe shall be SDR-35 Polyvinyl Chloride (PVC) with push-on watertight joints, meeting ASTM 3034 as manufactured by the following:

- a. CertainTeed, Valley Forge, PA
- b. J-M Manufacturing Co., Livingston, NJ
- c. National Pipe & Plastics, Hyde Park, NY
- d. Or equal

2. Saddles

The Authority will supply up to a four (4) inch saddle for installation.

3. Clean-outs

The clean-out wye shall be a wye and a 45° street El, designed for use with the lateral pipe, as manufactured by:

- a. CertainTeed, Valley Forge, PA
- b. J-M Manufacturing Co., Livingston, NJ
- c. National Pipe & Plastics, Hyde Park, NY
- d. Or equal

4. Fittings

Fittings shall be as required and be manufactured for use with the pipe used. The fitting shall be Polyvinyl Chloride (PVC) SDR-35, with push-on joints, meeting ASTM F477.

5. Tracer Wire

Eight (8) Gauge Green Jacketed Tracer Wire is required to be run from the tap on the main along the sewer lateral to the top of the cleanout lid as per the specifications contained within the rules and regulations.

c. Methods of Construction

1. General

All materials installed shall be new which have at no time previously been used for any purpose whatsoever.

2. Excavation and Backfill

Shall be as specified in the Road Opening Permit. The depth of the clean-out shall be a minimum of three (3) feet and a maximum of eight (8) feet.

3. Handling

All pipe and fittings shall be handled in such a manner to insure undamaged delivery and installation.

4. Tapping

To be performed ONLY by an authority approved the Contractor.

5. Laying Pipe

The pipe shall be laid accurately to line and grade. Minimum slope shall be two (2) percent. Blocking or supporting of pipe by concrete, stones, bricks, wooden wedges, or other similar methods shall not be permitted. Each length of pipe shall be shoved home against the pipe previously laid and held securely in position.

All laterals from the house side must be connected to the wye at the rear base of the fitting.

The vertical clean-out standpipe shall be one piece, from the wye to the cap. The clean-out shall be set at the proposed finished grade of the property. The clean-out cap shall be a threaded counter sunk brass cap.

The clean out shall be located in the right-of-way or near the curb line. Clean outs are not permitted in sidewalks, driveways, concrete, blacktop, brick pavers, etc.

6. Location

The sewer lateral shall be located a minimum of five (5) feet away from other utilities. The pipe shall be laid perpendicular to the sewer main, unless otherwise permitted.

**LITTLE EGG HARBOR MUNICIPAL UTILITIES AUTHORITY
823 RADIO ROAD, P.O. BOX 660
LITTLE EGG HARBOR, NJ 08087
609-296-1168**

**UTILITY SERVICE INSTALLATION APPLICATION
4" & 6" DIAMETER SEWER SERVICES AND 1" TO 2" DIAMETER WATER SERVICES**

Premises to be connected: Block _____ Lot _____ Qual _____
 SERVICE ADDRESS: _____
 Name of Owner: _____ Phone No. _____
 Mailing Address: _____

WATER DEPOSIT	SEWER DEPOSIT
Connection Fee Paid _____	Connection Fee Paid _____
Inspection Fee Paid _____	Inspection Fee Paid _____
Check No. _____ Cash _____	Check No. _____ Cash _____

Service Size to Be Installed _____ Service Size to Be Installed _____

It is understood and agreed that the applicant/property owner has elected to install a SEWER and/or WATER service and that same will be installed at the sole expense of the applicant/property owner with no cost attaching to the Authority. The installation shall be made by a utility contractor.

It is also agreed that the Authority shall be the sole owner of the sewer and water services constructed from the main line to the property line/curb after it has been approved by the Authority.

The applicant/property owner is responsible for obtaining the necessary road opening permit(s) for construction of said service(s). A copy of the road opening permit(s) must be provided to the Authority before this application can be approved.

APPLICANT MUST CONTACT THE AUTHORITY to schedule an appointment for the inspection of the installation of the service(s) a minimum of 72 hours before construction begins. The LEHMUA will require a \$500.00 inspection fee per service (\$500 for water and \$500 for sewer). Any additional charges beyond this fee will be billed to the property owner of record.

CONTRACTOR INSTALLING SERVICE(S) _____

Emergency Telephone Number of Contractor _____

CONTRACTOR PERFORMING INSTALLATION OF SERVICE(S) MUST SUBMIT A CERTIFICATE OF INSURANCE BEFORE APPLICATION CAN BE APPROVED. Attached is a copy of the Insurance Requirements.

The property owner shall hold the Authority harmless by reading, agreeing to, and executing the Indemnification on the back of this application.

SIGNATURE OF PROPERTY OWNER _____ **DATE** _____

FOR OFFICIAL USE ONLY

LEHMUA Account No. _____
 Date Service Installation Application Received: _____
 Township, County, or State Road Opening Permit No: _____ Date Received: _____
 Date Certificate of Insurance Received: _____ Indemnification Signed _____
 Underground Mark-out Confirmation No. _____

Date Approved by LEHMUA _____ **LEHMUA Approval Signature** _____

APPOINTMENT SCHEDULED

(WATER)	(SEWER)
Date _____ Time _____	Date _____ Time _____
Scheduled Date _____ Initials _____	Scheduled Date _____ Initials _____

INDEMNIFICATION

The permittee or their contractor shall defend, indemnify and save harmless, the Little Egg Harbor Municipal Utilities Authority from and against all losses, costs, damages, expense claims, or demands arising out of or caused or alleged to have been caused in any manner against claims arising from the operation of the permittee's contractor, subcontractor or agent's operations, by a defect in any equipment or materials supplied hereunder or by performing the permitted utility work herein provided, including all suits or actions of every kind of description brought against Little Egg Harbor Municipal Utilities Authority, either individually or jointly with the permittee for or on account of any damage or injury to any person or persons or property, caused or occasioned or alleged to have been caused by or on account of the performance of any work pursuant to or in connection with this permitted utility work or through any negligence or alleged negligence in guarding the work or through any act, omission or fault or alleged act, omission or fault of the permittee or their contractor, their employees or agents, or others under the permittee's control.

Signature of Property owner _____

Witness _____

TO: INSURANCE PRODUCER

Your client is required to provide a certificate of insurance to the Little Egg Harbor Municipal Utilities Authority for the coverage's and amounts indicated on the reverse side of this form. It is important to your client that you respond quickly since the installation of utility services depend upon valid insurance. Additionally, the minimum amount and type of coverage shown on this form is not negotiable and is not intended to imply that is all the insurance necessary to protect him/her from all losses or liability. It is the Little Egg Harbor Municipal Utilities Authority's policy to require all persons or Utility Contractors performing any water and or sanitary sewer utility service installations, repair operations or a service in. on. or upon any property/premises or facilities under the Authority's care, custody and control to maintain the insurance coverage described below: such insurance must be obtained prior to the start of any such work.

- A. Comprehensive General Liability (CGL)
This coverage must include: Premises-Operations. Products/Completed Operations Hazard. Contractual Insurance (Blanket Coverage). Broad Form Property Damage. Independent Contractors, and Personal Injury and all others shown on 'X' in the required column.

Minimum Coverage
Bodily Injury and Property Damage combined - as shown in the amount required column.

AMOUNTS OF LESS THAN \$1,000,000 WILL NOT BE ACCEPTABLE.

Contractual Insurance (Blanket Coverage)
Contractual Indemnification - Save Harmless Agreement which is incorporated into all Vouchers. General Purchase Agreements and Contracts.

- B. Automobile Liability - Comprehensive Form (As shown on C.O.I.)
Minimum Coverage
Bodily Injury and Property Damage combined – (Minimum \$1,000,000)

- C. Worker's Compensation - As required by New Jersey State Statute and
Employer's Liability (minimum \$100,000)

- D. Excess Liability
Commercial Umbrella Form - \$1,000,000 preferred.

- E. Other Coverage(s)
(As shown on C.O.I.)

Important - Producer:

THE CERTIFICATE MUST BE SIGNED BY THE AGENT OF THE INSURER OR CERTIFICATE WILL BE RETURNED.

IT IS NECESSARY TO SUBMIT YOUR CLIENT'S COVERAGE THIRTY (30) DAYS PRIOR TO THE EXPIRATION OF THE EXISTING COVERAGE ON OUR CERTIFICATE ONLY: ALL OTHERS WILL BE RETURNED TO THE SUPPLIER AND SERVE TO DELAY FUTURE BUSINESS DEALINGS BETWEEN THE OWNER AND YOUR CLIENT.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Sample	CONTACT NAME:	
	PHONE (A/C, No. Ext):	FAX (A/C, No):
	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	NAIC #
INSURED Sample	INSURER A :	
	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	GENERAL LIABILITY						EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						MED EXP (Any one person) \$
	GEN'L AGGREGATE LIMIT APPLIES PER:						PERSONAL & ADV INJURY \$ 1,000,000
	<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC						GENERAL AGGREGATE \$ 2,000,000
	AUTOMOBILE LIABILITY						PRODUCTS - COMP/OP AGG \$ 1.0/2.0 Million
	<input type="checkbox"/> ANY AUTO						COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	<input type="checkbox"/> ALL OWNED AUTOS						BODILY INJURY (Per person) \$
	<input checked="" type="checkbox"/> HIRED AUTOS						BODILY INJURY (Per accident) \$
	<input checked="" type="checkbox"/> SCHEDULED AUTOS						PROPERTY DAMAGE (Per accident) \$
	<input checked="" type="checkbox"/> NON-OWNED AUTOS						\$
	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR						EACH OCCURRENCE \$
	<input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE						AGGREGATE \$
	DED RETENTION \$						\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICE/MEMBER EXCLUDED? (Mandatory in NH)	Y/N	N/A				E.L. EACH ACCIDENT \$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$ 1,000,000
							E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

LEHMUA and REMINGTON & VERNICK ENGINEERS additional insured

CERTIFICATE HOLDER**CANCELLATION**

Little Egg Harbor M.U.A
823 Radio Road
Little Egg Harbor, N.J. 08087

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

FORMS

Form A

Block(s) _____ **Lot(s)** _____

IRREVOCABLE STANDBY LETTER OF CREDIT (PERFORMANCE)

Issued by:

Name of Banking Institution: _____

Address: _____

City/State/Zip: _____

Telephone: _____ Fax: _____

Issue date: _____

Expiration date and time: _____

Letter of Credit Number: _____

Beneficiary:

Name: _____

Address: _____

City/State/Zip: _____

Telephone: _____ Fax: _____

Applicant:

Name: _____

Address: _____

City/State/Zip: _____

Telephone: _____ Fax: _____

Amount: _____ Dollars (\$ _____)

(Not to exceed 120 percent of the cost of the improvements, as certified by the authority engineer)

We hereby issue our irrevocable standby letter of credit in your favor, which is available by your draft at sight bearing our letter of credit number _____ on _____ (name of banking institution).

Your draft must be presented at the office indicated above by personal delivery or by registered or certified mail or courier and must be accompanied by (1) the original standby letter of credit and any subsequent original amendments and (2) an original statement signed by the Little Egg Harbor Municipal Utilities Authority stating: "The amount of this drawing under Irrevocable Standby Letter of Credit No. _____, issued _____ by _____ (name of banking institution), represents the amount due us as a result of the failure of _____ (name of applicant) to complete, in whole or in part, the required site improvements as detailed in the authority resolution of approval and in that certain Authority Estimate entitled " _____ " prepared by _____ and dated _____. I hereby certify that notice of the incompletions upon which this drawing is based was given to the applicant by registered or certified mail or by courier on _____ (date at least 30 days prior to the date of the authority's statement). This certification shall be accompanied by a resolution of the Little Egg Harbor Municipal Utilities Authority endorsing the findings and stating that the improvements have not been approved or accepted.

This letter of credit shall be deemed to be automatically extended annually for periods of one year unless written notice is given by the banking institution by registered or certified mail or by courier to the applicant and the authority at least 60 days prior to the then-current expiration date.

In the event of the failure of the applicant to furnish another letter of credit meeting the requirements of N.J.S.A. 40:55D-53.5 and N.J.A.C. 5:39-1.3, or other acceptable security, at least 30 days prior to the expiration date of this letter of credit, the authority may, to the extent allowed by law, draw upon this letter of credit to pay the cost of any incompletions.

This letter of credit shall expire upon approval or acceptance by resolution of the Little Egg Harbor Municipal Utilities Authority of all improvements cited in the Estimate or upon replacement of this letter of credit by other security meeting applicable legal requirements. Upon approval or acceptance of some, but not all, of said improvements, a reduction in the amount of this letter of credit shall be granted in accordance with N.J.S.A. 40:55D-53, provided that the remaining amount shall be sufficient to secure provision of the improvements not yet approved and that the authority may require that the remaining amount be 30 percent of the original amount.

All correspondence to the banking institution concerning this letter of credit shall be addressed to the office indicated above.

This letter of credit shall inure to the benefit of the beneficiary authority only and no other party shall acquire any rights hereunder.

This letter of credit is subject to [Uniform Customs and Practice for Documentary Credits (1993 Revision), International Chamber of Commerce Publication No. 500] [International Standby Practices 1998 (ISP98)]. (Note: Either shall be acceptable).

We hereby agree with you that drawings under and in compliance with the terms of this letter of credit shall be duly honored upon presentation to us.

Witness/Attest:

(Authorized signature and title)

Form B

Block(s) _____ **Lot(s)** _____

PERFORMANCE SURETY BOND

We, _____, having offices at _____, _____, as principal, and _____, having offices at _____, _____, a corporation duly licensed to transact a surety business in the State of New Jersey, as surety, are indebted to the authority of _____ in the county of _____, obligee, in the sum of \$ _____, for which payment we bind ourselves and our respective heirs, legal representatives, successors, and assigns, jointly and severally.

On _____ (date), principal was granted approval by the _____ (approving authority) of the _____ of _____ for _____ (include reference to specific job and resolution of approval). The estimate by the Authority of the cost of this work and the resolution of approval are attached hereto and made a part hereof.

Pursuant to authority ordinance, adopted under authority of the Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.), the principal hereby furnishes a performance surety bond in the amount of \$ _____ (not to exceed 120 percent of the cost of the improvements, as certified by the Authority, written by _____, a surety licensed in the State of New Jersey, guarantying full and faithful completion of improvements approved by the approving authority, in lieu of completing the required improvements prior to the granting of final approval. This bond shall remain in full force and effect until such time as all improvements covered by the bond have been approved or accepted by resolution of Little Egg Harbor Municipal Utilities Authority, except that in those instances where some of the improvements are approved or accepted by resolution of the governing body upon certification by the authority engineer, partial release from the bond shall be granted in accordance with N.J.S.A. 40:55D-53. The amount of the bond remaining shall be sufficient to secure provision of the improvements not yet approved; provided, however, that the authority may require that 30 percent of the amount of the bond be retained to ensure completion of all improvements.

This bond shall remain in full force and effect until released by resolution of Little Egg Harbor Municipal Utilities Authority.

This bond is issued subject to the following expressed conditions:

This bond shall not be subject to cancellation either by the principal or by the surety for any reason until such time as all improvements subject to the bond have been accepted by the authority, in accordance with the applicable provisions of the Municipal Land Use Law.

2. This bond shall be deemed to be continuous in form and shall remain in full force and effect until the improvements are accepted by the authority and the bond is released, or until default is declared, or until the bond is replaced by another bond meeting applicable legal requirements. Upon approval or acceptance of all improvements by the authority, or upon replacement of this bond by another bond, liability under this bond shall cease. Upon approval or acceptance of some, but not all, of the required improvements by the authority, partial release from the bond shall be granted in accordance with N.J.S.A. 40:55D-53; provided, however, that the portion of the bond amount sufficient to secure completion of the improvements shall continue in effect and the authority may retain 30 percent of the bond amount posted to ensure such completion. The aggregate liability of the surety shall not exceed the sum set forth above.

In the event that the improvements subject to this bond are not completed within the time allowed under the conditions of the final approval issued pursuant to the Municipal Land Use Law, including such extensions as may be allowed by the approving authority, Little Egg Harbor Municipal Utilities Authority may, at its option, and upon at least 30 days prior written notice to the principal and to the surety by personal delivery or by certified or registered mail or courier, declare the principal to be in default and, in the event that the surety fails or refuses to complete the work in accordance with the terms and conditions of the original approval, claim payment under this bond for the cost of completion of the work. If any action is brought against the principal under this bond, written notice of such action shall be given to the surety by the authority by personal delivery or by registered or certified mail or courier at the same time.

The surety shall have the right to complete the work in accordance with the terms and conditions of the original approval, either with its own employees or in conjunction with the principal or another contractor; provided, however, that the surety, in its sole discretion, may make a monetary settlement with the authority as an alternative to completing the work.

In the event that the principal and the approving authority agree to changes in the scope of work, the obligations of the surety under this bond shall not be affected so long as the cost of the work does not exceed 120 percent of the authority engineer's certified estimate, attached hereto, and made a part hereof, which 120 percent of the estimate shall be the limit of the surety's obligation under this bond in any case. If the cost of the work exceeds 120 percent of the certified estimate, the principal shall secure a rider from a surety for the additional amount; provided, however, that this provision shall not be construed as requiring a surety to provide additional coverage.

This bond shall inure to the benefit of the authority only and no other party shall acquire any rights hereunder.

If this bond shall for any reason cease to be effective prior to the approval or acceptance of all improvements, a cease and desist order may be issued by the governing body, in which case all work shall stop until such time as replacement guarantee acceptable to the approving authority becomes effective.

Date: _____

Principal: _____

Witness/Attest: _____

Surety: _____

Witness/Attest: _____

Form C

Block(s) _____ Lot(s) _____

IRREVOCABLE STANDBY LETTER OF CREDIT (MAINTENANCE)

Issued by:

Name of Banking Institution: _____

Address: _____

City/State/Zip: _____

Telephone: _____ Fax: _____

Issue date: _____

Expiration date and time: _____

Letter of Credit Number: _____

Beneficiary:

Name: _____

Address: _____

City/State/Zip: _____

Telephone: _____ Fax: _____

Applicant:

Name: _____

Address: _____

City/State/Zip: _____

Telephone: _____ Fax: _____

Amount: _____ Dollars (\$ _____)

(Not to exceed 15 percent of the cost of the improvements, as certified by the Authority engineer)

We hereby issue our irrevocable standby letter of credit in you favor, which is available by your draft at sight bearing our letter of credit number _____ on _____ (name of banking institution).

Your draft must be presented at the office indicated above by personal delivery or by registered or certified mail or courier and must be accompanied by (1) the original standby letter of credit and any subsequent original amendments and (2) an original statement signed by the Little Egg Harbor Municipal Utilities Authority stating: "The amount of this drawing under Irrevocable Standby Letter of Credit No. _____, issued _____ by _____ (name of banking institution), represents the amount due us as a result of the failure of _____ (name of applicant) to take necessary corrective action to repair defects in functioning, materials or quality of work in the required site improvements as detailed in the Authority resolution of approval and in that certain Authority Estimate entitled "_____ " prepared by _____ and dated _____. I hereby certify that notice of the defects upon which this drawing is based was given to the applicant by registered or certified mail or by courier on _____ (date at least 30 days prior to the date of the Authority's statement)." This certification shall be accompanied by a resolution of the Little Egg Harbor Municipal Utilities Authority endorsing the engineer's findings.

This letter of credit shall continue in effect until the expiration date and shall be deemed to be automatically extended for a further period of _____ (not to exceed one year) unless written notice is given by the banking institution by registered or certified mail or by courier to the applicant and the authority at least 60 days prior to the then current expiration date.

In the event of the failure of the applicant to furnish another letter of credit meeting the requirements of N.J.S.A. 40:55D-53.5 and N.J.A.C. 5:39-1.4, or other security meeting applicable legal requirements, at least 30 days prior to the expiration date of this letter of credit, the municipality may draw upon this letter of credit, to the extent allowed by law.

All correspondence to the banking institution concerning this letter of credit shall be addressed to the office indicated above.

This letter of credit shall inure to the benefit of the beneficiary municipality only and no other party shall acquire any rights hereunder.

This letter of credit is subject to [Uniform Customs and Practice for Documentary Credits (1993 Revision), International Chamber of Commerce Publication No. 500] [International Standby Practices 1998 (ISP98)]. (Note: Either shall be acceptable).

We hereby agree with you that drawings under and in compliance with the terms of this letter of credit shall be duly honored upon presentation to us.

Witness/Attest:

(Authorized signature and title)

Form D

Block(s) _____ Lot(s) _____

MAINTENANCE SURETY BOND

We, _____, having offices at _____, _____, as principal, and _____, having offices at _____, _____, a corporation duly licensed to transact a surety business in the State of New Jersey, as surety, are indebted to the authority of _____ in the county of _____, obligee, in the sum of \$ _____, for which payment we bind ourselves and our respective heirs, legal representatives, successors, and assigns, jointly and severally.

On _____ (date), principal was granted approval by the _____ (approving authority) of the _____ of _____ for _____ (include reference to specific job and resolution of approval).

This bond shall become effective upon approval or acceptance of the improvements by the governing body, as certified by the resolution of the governing body, which is, or shall be, attached hereto and made a part hereof. The improvements subject to this bond are as follows:

_____ The certification of the cost of such improvements by the authority engineer is attached hereto and made a part hereof.

Pursuant to authority ordinance, adopted under authority of the Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.), the principal, as a condition of approval or acceptance of improvements, hereby furnishes this maintenance bond in the amount of \$ _____ (not to exceed 15 percent of the cost of the improvements as certified by the authority engineer), written by _____, a surety licensed in the State of New Jersey, guarantying full and faithful compliance with all terms and conditions of the approval. The bond shall continue in effect for a period of _____ (not to exceed two years) from the date of approval or acceptance of the said improvements.

This bond is issued subject to the following expressed conditions:

This bond shall not be subject to cancellation either by the principal or by the surety for any reason until the end of the period for which it is required to be maintained.

The aggregate liability of the surety under this bond shall not exceed the sum set forth above.

In the event that the improvements subject to this bond exhibit any defects in functioning, materials or quality of work, Little Egg Harbor Municipal Utilities Authority may, at its option, and upon at least 30 days prior written notice to the principal and to the surety by personal delivery or by certified or registered mail or courier, declare the principal to be in default and, in the event that the surety fails or refuses to perform the necessary corrective work, claim payment under this bond for the cost of any work required for the proper correction of any such defects in the said improvements. In the event that any action is brought against the principal under this bond, written notice of such action shall be given to the surety by the authority by personal delivery or by registered or certified mail or courier at the same time.

The surety shall have the right to repair any defects in functioning, materials, or quality of work and, to that end, to do such corrective work as may be necessary in accordance with the terms and conditions of original approval, either with its own employees or in conjunction with the principal or another contractor; provided, however, that as an alternative to performing such maintenance or corrective work it may, in its sole discretion, make a monetary settlement with the authority. This bond shall inure to the benefit of the authority only and no other party shall acquire any rights hereunder.

Date: _____ Witness/Attest: _____, Principal _____

_____ Witness/Attest: _____, Surety _____

Form E

CERTIFICATE OF COMPLETION

(Corporation, Individual or Partnership)

Certification of Completion No: _____

LITTLE EGG HARBOR MUNICIPAL UTILITIES AUTHORITY

Application for Certification of Completion

For Sanitary Sewerage Facilities
and Water System Facilities

1. Applicant's Name: _____

Address: _____

Phone: _____

2. Name and Address of Present Owner if other than above:

3. Preliminary Application No: _____

Date of Approval: _____

Final Application No.: _____

Date of Approval: _____

4. Dates of Construction:

Starting: _____ Finishing: _____

5. Have record drawings for the construction been submitted to the Authority:

(yes or no) _____

6. Have the legal documents been drawn up and submitted to the Authority's Attorney transferring interest in the water facilities to the Authority:

(yes or no) _____.

7. If so, has the Authority approved of these documents:

(yes or no) _____.

Dated: _____

Signature of Applicant

FOR OFFICIAL USE ONLY

Date Received: _____

Authority or Authority's Engineer Remarks: _____

Date Record Drawings Received: _____

Date Conveyance of Facility Received: _____

Action of the LITTLE EGG HARBOR MUNICIPAL UTILITIES AUTHORITY: _____

Approved: _____ Disapproved: _____

Certification of Completion Granted (date): _____

Secretary: _____

Final Actions: _____

Date of Release of Bonds: _____

Form F

CONTRACTOR'S AFFIDAVIT

(Corporation Only)

STATE OF NEW JERSEY:

SS:

COUNTY OF OCEAN:

I, _____, full age, being duly sworn, according to law, upon my oath, depose and say:

1. I am the _____(officer) of a corporation of the State of _____, said corporation being the owner of the lines and appurtenances designated on record drawings attached hereto and made a part hereof.

2. I do hereby state and represent that all subcontractors and materialmen who have supplied any labor and/or material on the aforementioned property have been paid in full in accordance with an agreement entered into between the above mentioned corporation and the supplier or contractor and that no stop notice, mechanics' notice of intention and/or mechanics' lien or any other lien has been filed against the aforesaid premises, which would adversely affect the conveyance made to the Little Egg Harbor Municipal Utilities Authority.

IN WITNESS WHEREOF, the Grantor has hereunto set its hand and seal on this _____ day of _____, 20__.

Secretary
Corporate Seal

President

STATE OF NEW JERSEY:

SS:

COUNTY OF OCEAN:

BE IT REMEMBERED, that on this _____ day of _____, 20__, before me, the subscriber, personally appeared _____, who, being by me duly sworn on _____ oath, deposes and makes proof to my satisfaction that _____ is the Secretary of _____, the corporation named in the within Instrument; that he/she is the _____ President of said corporation; that the execution, as well as the making of this instrument, has been duly authorized by a proper resolution of the Board of Directors of said Corporation; that the deponent well knows the corporate seal of said corporation; and that the seal affixed to said instrument is the proper corporate seal and was thereto affixed and said instrument signed and delivered by said _____ President as and for the voluntary act and deed of said corporation in presence of the deponent, who thereupon subscribed his/her name thereto.

Sworn and Subscribed to:
Before me, this _____ day:
of _____ 20__ :

Notary Public

Form G

RESOLUTION

BE IT RESOLVED by the Board of Directors of _____ a corporation of the State of New Jersey, whose regular course of business consists of the development, redevelopment and construction of building developments and the buying and selling of land incidental thereto, that said corporation be and hereby is authorized to convey to the Little Egg Harbor Municipal Utilities Authority for no monetary consideration all of its right, title and interest in and to its sewer and water facilities, and all appurtenances thereto, situate, lying and being within Little Egg Harbor Township, Ocean County, New Jersey, as shown on Exhibits A and B attached hereto and made a part hereof.

BE IT FURTHER RESOLVED, that the President and Secretary be and hereby are authorized and directed to execute and deliver, in the name of the corporation and under the seal of the corporation, a Deed of Dedication, and any other papers pertinent thereto, conveying all of its right, title and interest in and to its sewer and water facilities, and all appurtenances thereto, lying within Little Egg Harbor Township as aforesaid, to said Little Egg Harbor Municipal Utilities Authority for no consideration.

CERTIFICATE OF SECRETARY

I, _____ Secretary of _____, a corporation of the State of New Jersey HEREBY CERTIFY that the foregoing is a true copy of a resolution duly adopted by the Board of Directors of said corporation at a meeting thereof duly called and held on the _____ day of _____, 20____, at which a quorum was present.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said corporation this _____ day of _____, 20____.

SECRETARY

Form H

DEED OF DEDICATION

This Deed of Dedication is made on _____, 20__

BETWEEN

referred to as the Grantor,

AND Little Egg Harbor Municipal Utilities Authority municipal corporation of the State of New Jersey
whose post office address is Post Office Box 660, Tuckerton, New Jersey
referred to as the Grantee.

The word "Grantee" shall mean all Grantees listed above.

WITNESSETH, that the Grantor, for and in consideration of the Grantee granting approval to the Grantor for the installation of sewer and water facilities in _____
_____ does hereby grant, convey, sell, alien, enfeoff, release and confirm (transfer ownership of) unto Grantee all of its right, title and interest in and to said sewer and water facilities, and all appurtenances thereto, for the operation of said sewer and water facilities within ALL that certain tract of land situate, lying and being in the Township of Little Egg Harbor, County of Ocean, and State of New Jersey, designated as _____
_____ as further described and shown on Exhibits A and B attached hereto and made a part hereof.

Signatures. This Deed of Dedication is signed and attested to by the Grantor's proper corporate officers as of the date at the top of the first page. Its corporate seal is affixed.

Attested by:

SECRETARY

By: _____
PRESIDENT

STATE OF NEW JERSEY: COUNTY OF OCEAN) ss.

I CERTIFY that on _____, 20____, _____ personally came before me and this person acknowledged under oath, to my satisfaction, that:

- (a) this person is the Secretary of _____, the corporation named in this Deed dedication;
- (b) this person is the attesting witness to the signing of this Deed of Dedication by the proper corporate officer who is _____, the President of the corporation;
- (c) this Deed was signed and delivered by the corporation as its voluntary act duly authorized by a proper resolution of its Board of Directors;
- (d) this person knows the proper seal of the corporation which was affixed to this Deed of Dedication;
- (e) this person signed this proof to attest to the truth of these facts; and
- (f) the full and actual consideration paid or to be paid for the transfer of title is \$0.00 (Such consideration is defined in N.J.S.A. 46:15.5).

Signed and sworn to before
me on _____, 20____.

Form I

EXHIBIT A

DESCRIPTION OF PROPERTY

ALL THAT CERTAIN area lying within _____

_____ at _____

said area being in the Township of _____ County of Ocean

and State of New Jersey and illustrated on the plan of _____

_____ prepared by _____

_____ dated _____

N.J. LICENSED LAND SURVEYOR

DEED OF DEDICATION

Record, chg. & return

Inc.
Grantor,

to

Att:

LITTLE EGG HARBOR MUNICIPAL
UTILITIES AUTHORITY
Grantee,

Prepared by:

Form J

STATE OF NEW JERSEY
AFFIDAVIT OF CONSIDERATION OR EXEMPTION
(c.49, P.L. 1968)
OR PARTIAL EXEMPTION
(c. 176, P.L. 1975)

To Be Recorded with Deed Pursuant to c.49, P.L. 1968 (N.J.S.A. 46:15-5 et seq.)

STATE OF NEW JERSEY }
COUNTY OF _____ ss.
FOR RECORDERS USE ONLY
Consideration \$ _____
Realty Transfer Fee \$ _____
Date _____ By _____

(1) PARTY OR LEGAL REPRESENTATIVE

Deponent, _____, being duly sworn according to law upon his/her oath, deposes and says
that he/she is the _____
(Grantor, Legal Representative, Corporate Officer, Officer of Title Company, Lending Institution, etc.)
in a deed dated _____ transferring real property identified as Block number _____
Lot number _____ located at _____
(Street Address, Municipality, County)
_____ and annexed hereto.

(2) CONSIDERATION

Deponent states that, with respect to deed hereto annexed, the actual amount of money and the monetary value of any other thing of value
constituting the entire compensation paid or to be paid for the transfer of title to the lands, tenements or other realty, including the remaining amount of any
prior mortgage to which the transfer is subject or which is to be assumed and agreed to be paid by the grantee and any other lien or encumbrance thereon not
paid, satisfied or removed in connection with the transfer of title is \$ _____.

(3) FULL EXEMPTION FROM FEE

Deponent claims that this deed transaction is fully exempt from the Realty Transfer Fee imposed by c. 49, P.L.
1968, for the following reason(s): Explain in detail. Mere reference to exemption symbol is not sufficient.

(4) PARTIAL EXEMPTION FROM FEE note: All boxes below apply to grantor(s) only. ALL BOXES IN APPROPRIATE CATEGORY MUST BE
CHECKED. Failure to do so will void claim for partial exemption.

Deponent claims that this deed transaction is exempt from the increased portion of the Realty Transfer Fee imposed by c. 176, P.L. 1975 for the
following reason(s):

a) SENIOR CITIZENS

- Grantor(s) 62 yrs. Of age or over.*
One or two-family residential premises.
Owned and occupied by grantor(s) at time of sale.
No joint owners other than spouse or other qualified exempt owner.

b) BLIND

- Grantor(s) legally blind.*
One or two-family residential premises.
Owned and occupied by grantor(s) at time of sale.
No joint owners other than spouse or other qualified exempt owner.

c) DISABLED

- Grantor(s) permanently and totally disabled.*
One or two-family residential premises.
Receiving disability payments.
Owned and occupied by grantor(s) at time of sale.
Not gainfully employed.
No joint owners other than spouse or other qualified exempt owner.

*IN THE CASE OF HUSBAND AND WIFE, ONLY ONE GRANTOR NEED QUALIFY.

D) NEW CONSTRUCTION

- Entirely new improvement.
Not previously used for any purpose.
Not previously occupied.

Deponent makes affidavit to induce the County Clerk or Register of Deeds to record the deed and accept the fee submitted herewith in accordance with
provisions of c. 49, P.L. 1968.

Subscribed and Sworn to before me _____
(Name of Deponent)

this

day of _____, 20____
(Address of Deponent)

FOR OFFICIAL USE ONLY This space for use of County Clerk or Register of Deeds
Instrument Number _____ County _____
Deed Number _____ Book _____ Page _____
Deed Dated _____ Date Recorded _____

Form K

AFFIDAVIT OF TITLE

STATE OF NEW JERSEY
COUNTY OF

SS
and

say under oath:

1. Officers. We are officers of
A corporation of the State of New Jersey. The Corporation will be called the "corporation" and sometimes "it" or "its". The
President of the Corporation is
and resides at
The Secretary is and resides at
We are fully familiar with the business of the corporation. We are citizens of the United State and at least 18 years old.

2. Representations. The statements contained in this affidavit are true to the best of our knowledge, information, and belief.

3. Corporate Authority. The corporation is the only owner of property located at
This property is to be by the corporation to
This action and the making of this affidavit of title, have been duly authorized by a proper resolution of the Board of Directors of the
corporation. A copy of this resolution, bearing the seal of the corporation, is attached, and made part of this affidavit. The corporation is
legally authorized to transact business in New Jersey. It has paid all state franchise taxes presently due. Its charter, franchise and corporate
powers have never been suspended or revoked. It is not restrained from doing business nor has any legal action been taken for that purpose. It
has never changed its name or used another name.

4. Approval of Shareholders. (check one only)

- Shareholder approval is not required.
This is a sale of all or substantially all of these assets of the corporation. The sale is not made in the regular course of the
business of the corporation. A copy of the authorization and approval of the shareholders is attached.

5. Ownership and Possession. It has owned this property since , . Since then, no one has
questioned its right to possession or ownership. The corporation has sole possession of this property. There are no tenants or other occupants
of this property. Except for its agreement with the Buyers (if this is a sale) it has not signed any contracts to sell this property. It has not given
anyone else any rights concerning the purchase or lease of this property. It has never owned any property which is next to this property.

6. Improvements. No additions, alterations, or improvements are now in progress or have made to this property since
, . It has always obtained all necessary permits and certificates of occupancy. All charges for municipal improvements such as
sewers, sidewalks, curbs, or similar improvements benefiting this property have been paid in full. No building, addition, extension, or
alteration on this property has been made or worked on within the past four months. The corporation is not aware that anyone has filed or
intends to file a mechanic's lien or building contract relating to this property. No one has notified it that money is due and owing for
construction or repair work on this property.

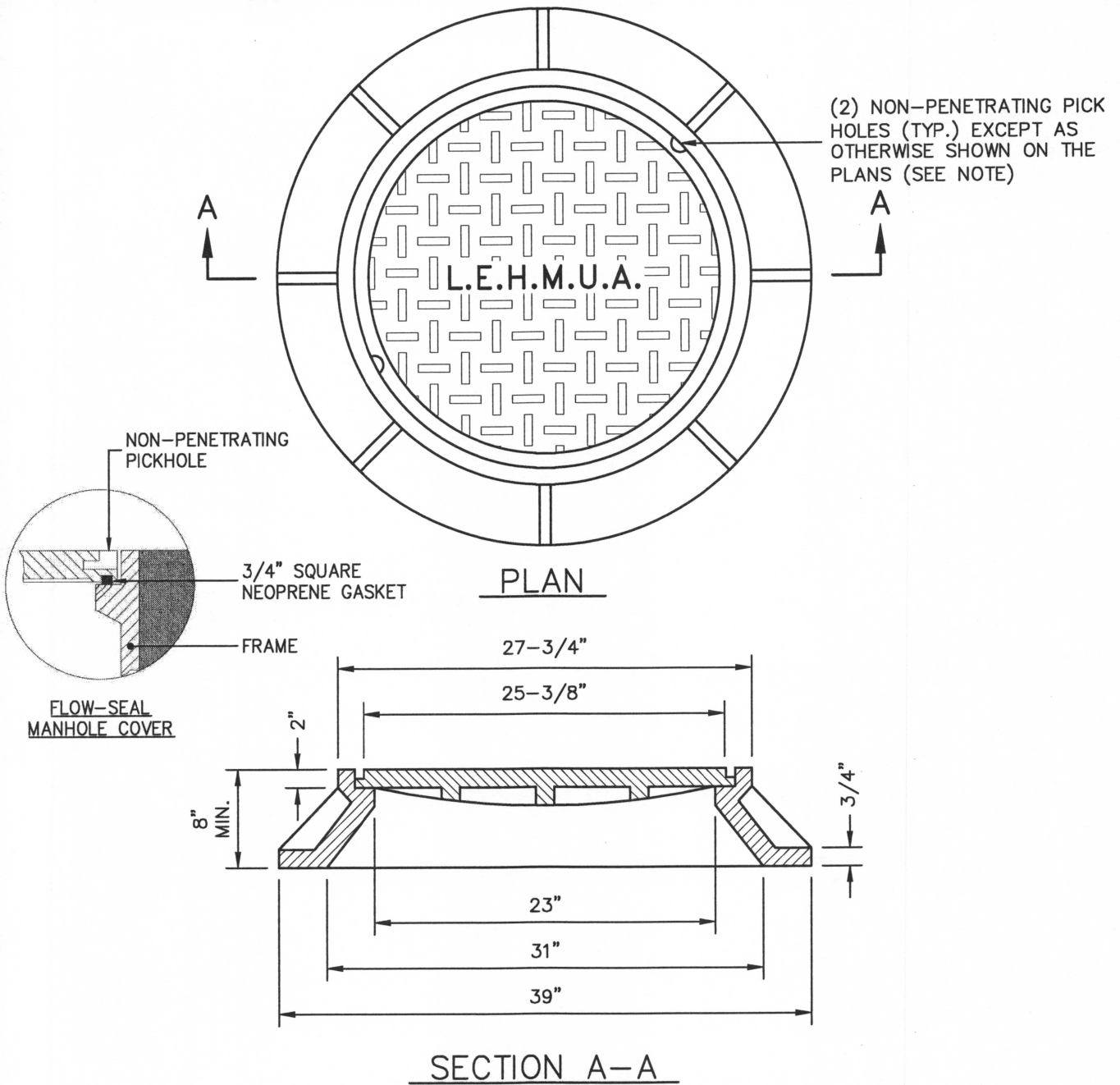
7. Liens or Encumbrances. It has not allowed any interests (legal rights) to be created which affects its ownership or use of this property. No
other persons have legal rights in this property, except the rights of utility companies to use this property along the road or for the purpose of
serving this property. The corporation does not have any pending lawsuits or judgments against it or other legal obligations which may be
enforced against this property. It does not owe any disability, unemployment, corporate franchise, social security, municipal or alcoholic
beverage tax payments. No bankruptcy or insolvency proceedings have been started by or against it, nor has it ever been declared bankrupt.
No one has any security interest in any personal property or fixtures on this property. All liens (legal claims, such as judgments) listed on the
attached judgment or lien search are not against the corporation, but against others with similar names.

8. Exceptions. The following is a complete list of exceptions to any of the above statements. This includes all liens or mortgages which are
not being paid as a result of this transaction.

9. Reliance. The corporation makes this affidavit in order to induce the Buyer(s) or the Lender to accept its deed or mortgage. It is aware that
the Buyer(s) or the Lender will rely on the statements made in this affidavit and on its truthfulness.

Signed and sworn to me on
,20

PLATES



SECTION A-A
MANHOLE FRAME AND COVER

NOTES:

1. ALL TERMINAL (END-OF-LINE) MANHOLES SHALL BE VENTED USING PENETRATING TYPE PICK HOLES.
2. CASTINGS SHALL BE FULLY COATED INSIDE AND OUTSIDE WITH COAL TAR PITCH VARNISH.
3. BEARING SURFACE OF FRAME AND COVER SHALL BE MACHINED.
4. COVER SHALL BE SUPPLIED WITH 1-1/2" HIGH BLOCK LETTERING, RAISED.
5. CAMPBELL FOUNDRY PATTERN NO. 1202B OR EQUAL.
6. "FLOW-SEAL MANHOLE COVER" REQUIRED FOR MANHOLES LOCATED IN AREAS BELOW AN ELEVATION 10.

LITTLE EGG HARBOR
MUNICIPAL UTILITIES AUTHORITY

P.O. BOX 660
LITTLE EGG HARBOR, NEW JERSEY, 08087
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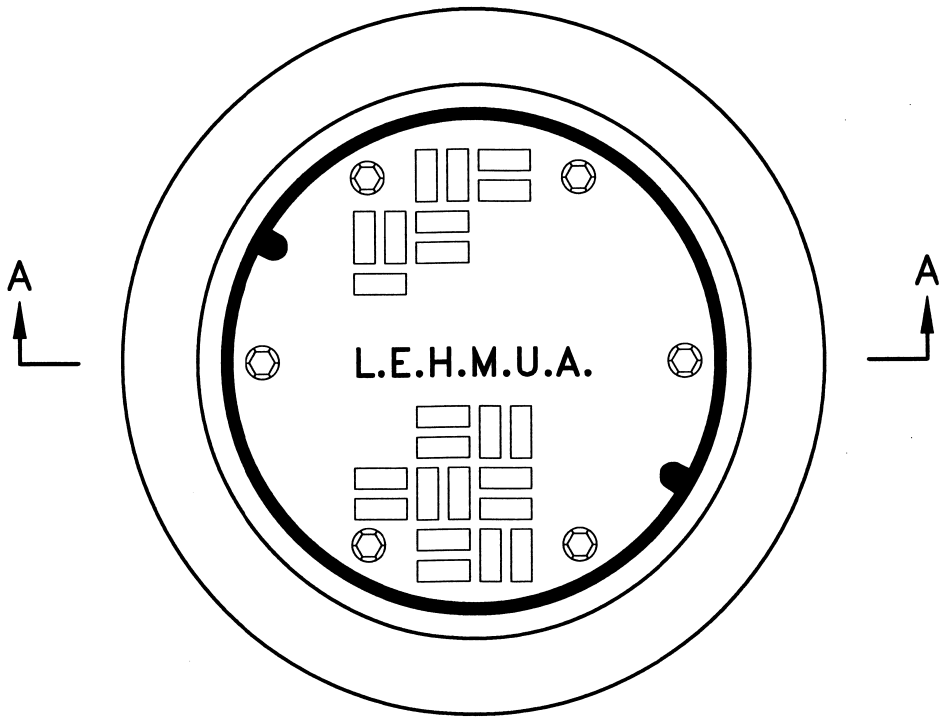


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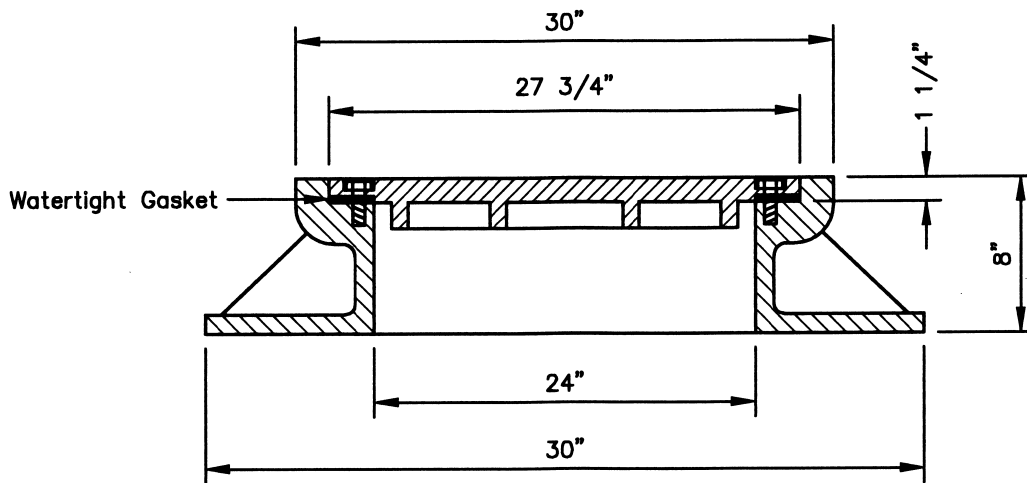
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PLAN



SECTION A-A

WATERTIGHT MANHOLE FRAME AND COVER

NOTE:

1. Bolt Down Watertight Frames And Covers Shall Be Used In All Easement. The Unit Shall Be Equal To Campbell Foundry Pattern No. 1502.

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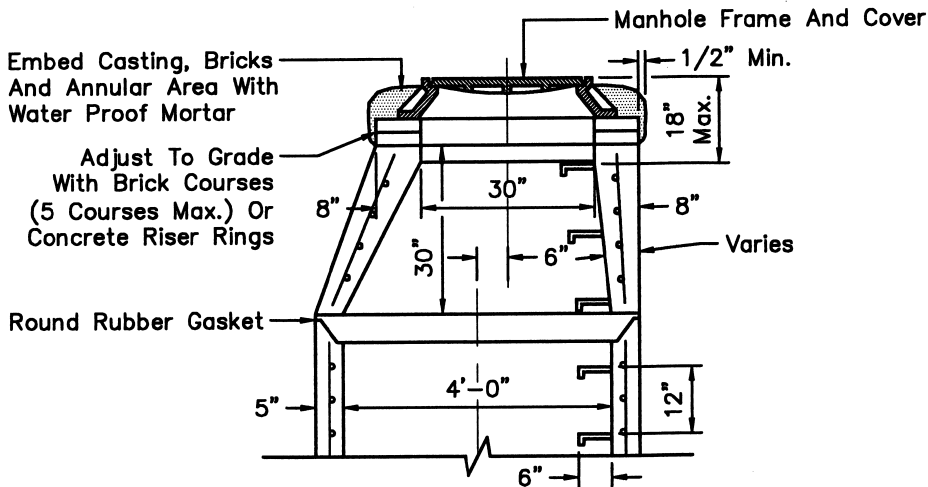


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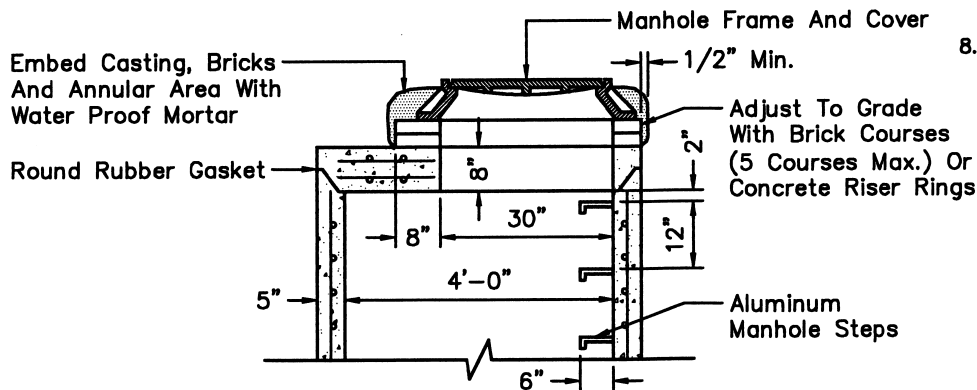
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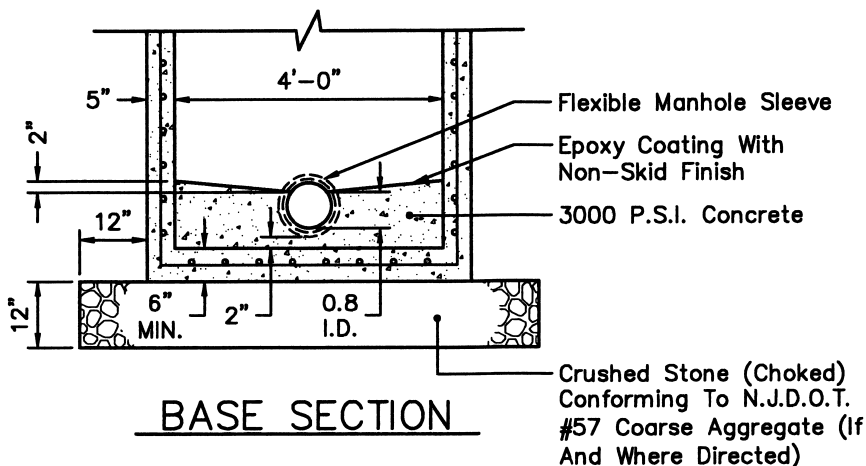
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CONE TOP (ALTERNATE "A")



SLAB TOP (ALTERNATE "B")



BASE SECTION

STANDARD MANHOLE

NOTES:

1. Short Sections Of Main Shall Be Used At Manholes.
2. Exterior Surface Shall Be Painted With Two Coats Of Coal Tar Epoxy. Interior Surface Shall Be Coated With White Epoxy.
3. All Construction Shall Meet Standard Specifications, The Latest Revisions.
4. All Construction Shall Be In Accordance With The Latest O.S.H.A. Standards.
5. Precast Reinforced Concrete Manhole Sections Shall Conform To The Requirements Of ASTM C478.
6. All Precast Sections Shall Have A Minimum Ultimate Compressive Strength Of 4000 P.S.I.
7. Joints Of The Manhole Sections Shall Be Formed Using A Round Rubber Gasket And When Assembled Shall Be Self-Centering And Make A Uniform Watertight Joint.
8. Slab Tops Are To Be Used When There Is Insufficient Elevation Difference To Make All The Changes In Section.

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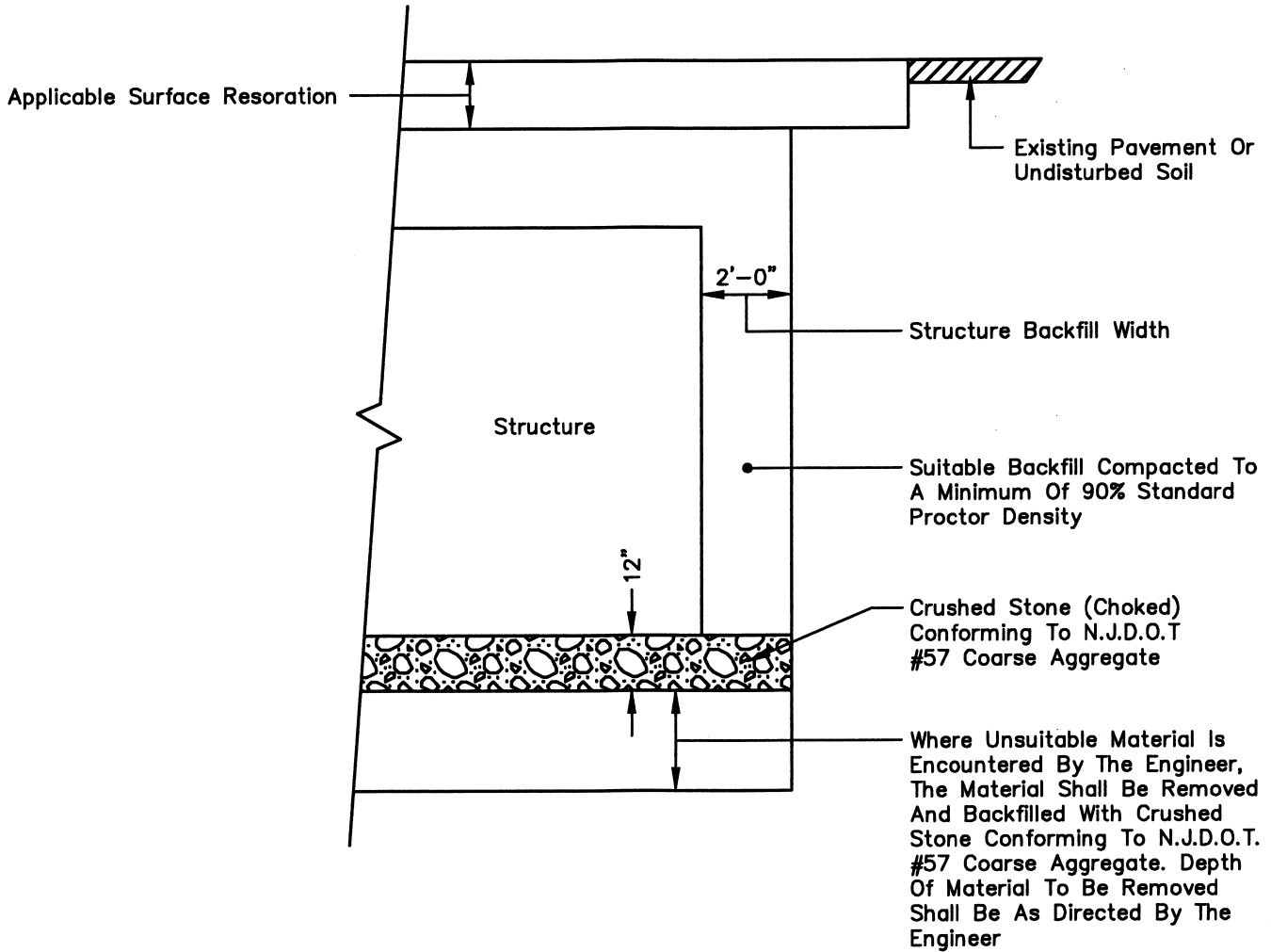


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TYPICAL STRUCTURE BACKFILL DETAIL

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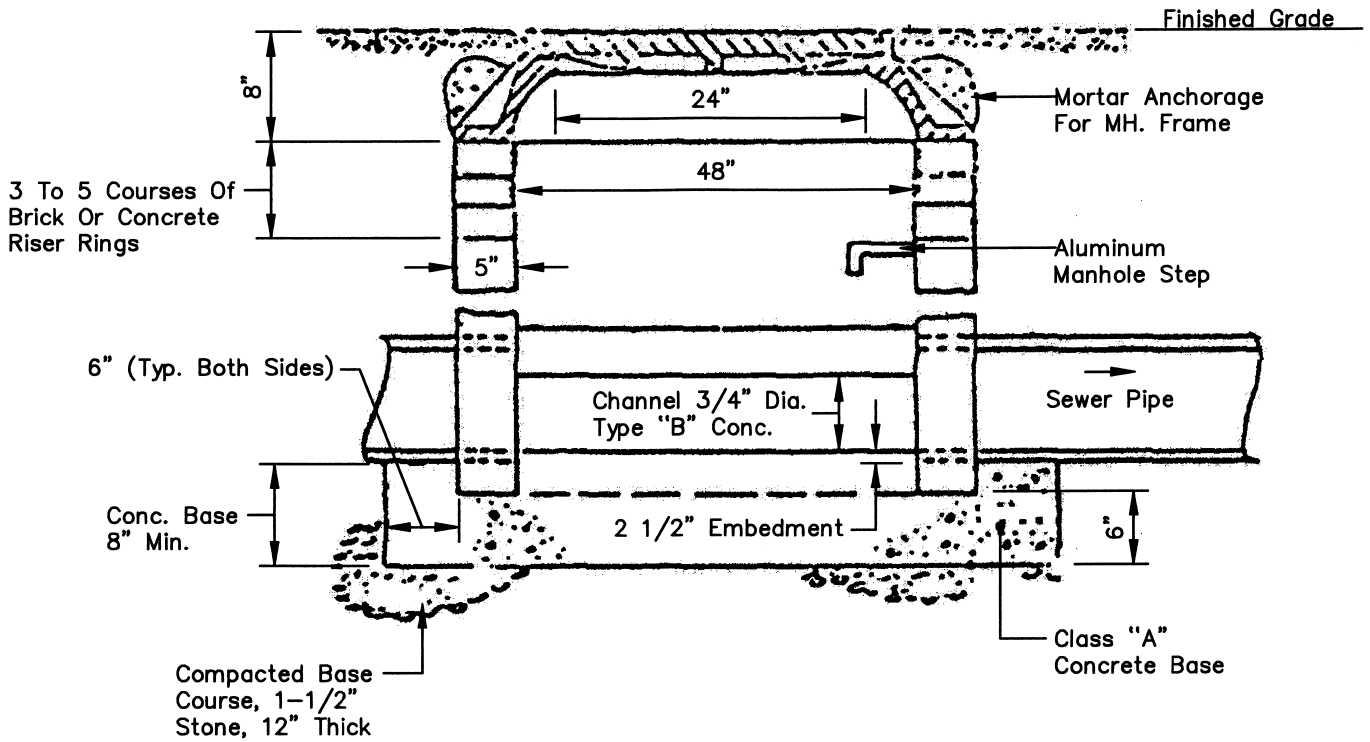


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SHALLOW MANHOLE

NOTES:

1. Shallow Manhole (Circular) To Be Used At Locations Where The Distance From Finished Grade To The Top Of Pipe Is 3'-0" Or Less.
2. For Depths 3'-0" And Less, Measured From The Top Of The Pipe, The Contractor Shall Install Ductile Iron Pipe, Class 50, Under Traffic Areas.
3. Inlets And Outlets Shall Be Connected To Manhole Using Flexible Manhole Sleeves.

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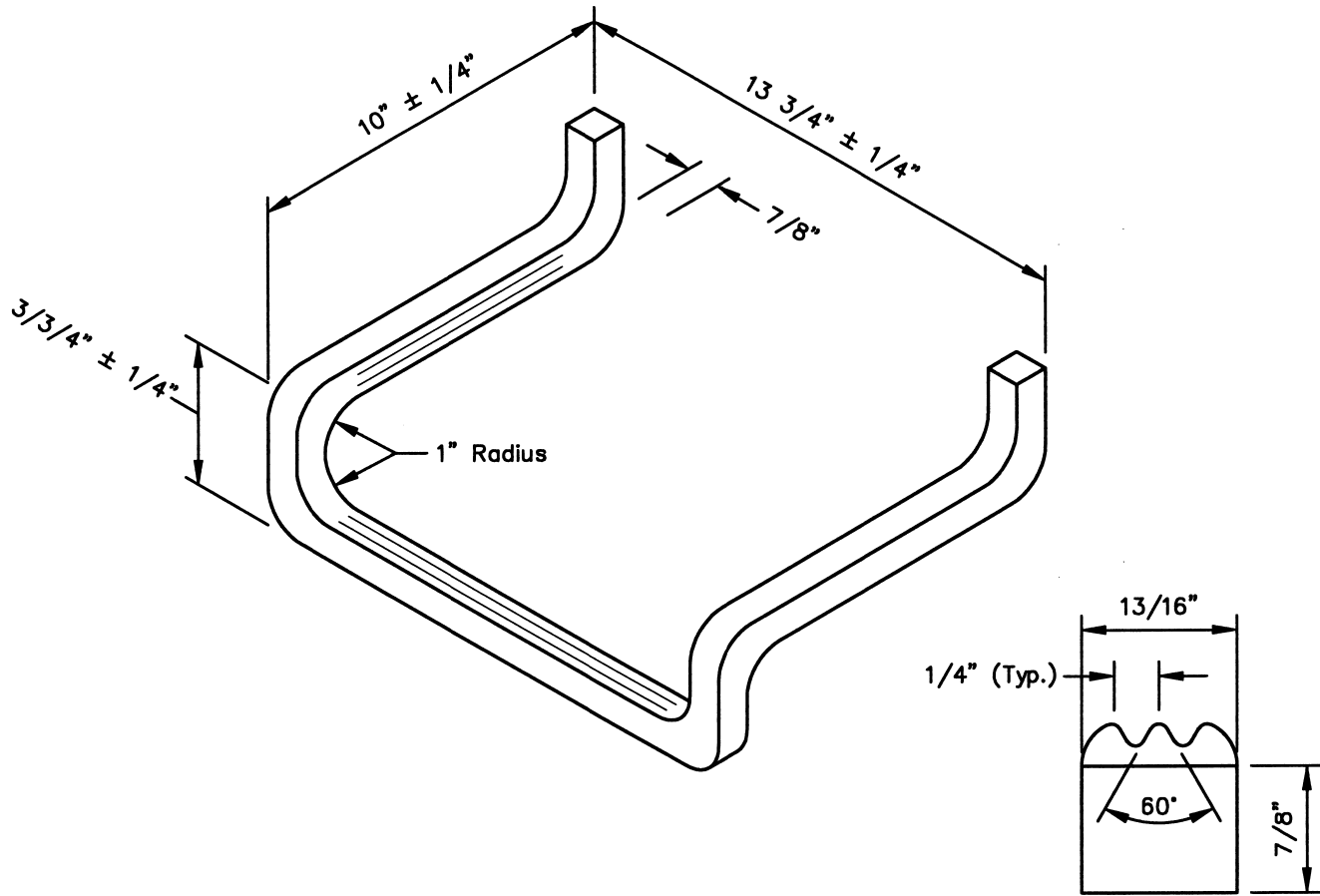
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PLATE No.

5



ALUMINUM MANHOLE STEP

NOTES:

1. Aluminum Manhole Steps Shall Be Extruded Alum. 6061-T6 Alloy Drop Front Design Or Approved Equal.
2. The Portion To Be Embedded In The Manhole Shall Be Coated With Coal Tar Pitch Or Other Approved Material And Shall Be In Accordance With The Latest O.S.H.A. Standard.
3. Manholes Up To 15 Feet Shall Have Embedded Aluminum Manhole Steps. For Depths Greater Than 15 Feet, An Aluminum Ladder Shall Be Bolted To The Structure Wall By Means Of Anchor Bolts.

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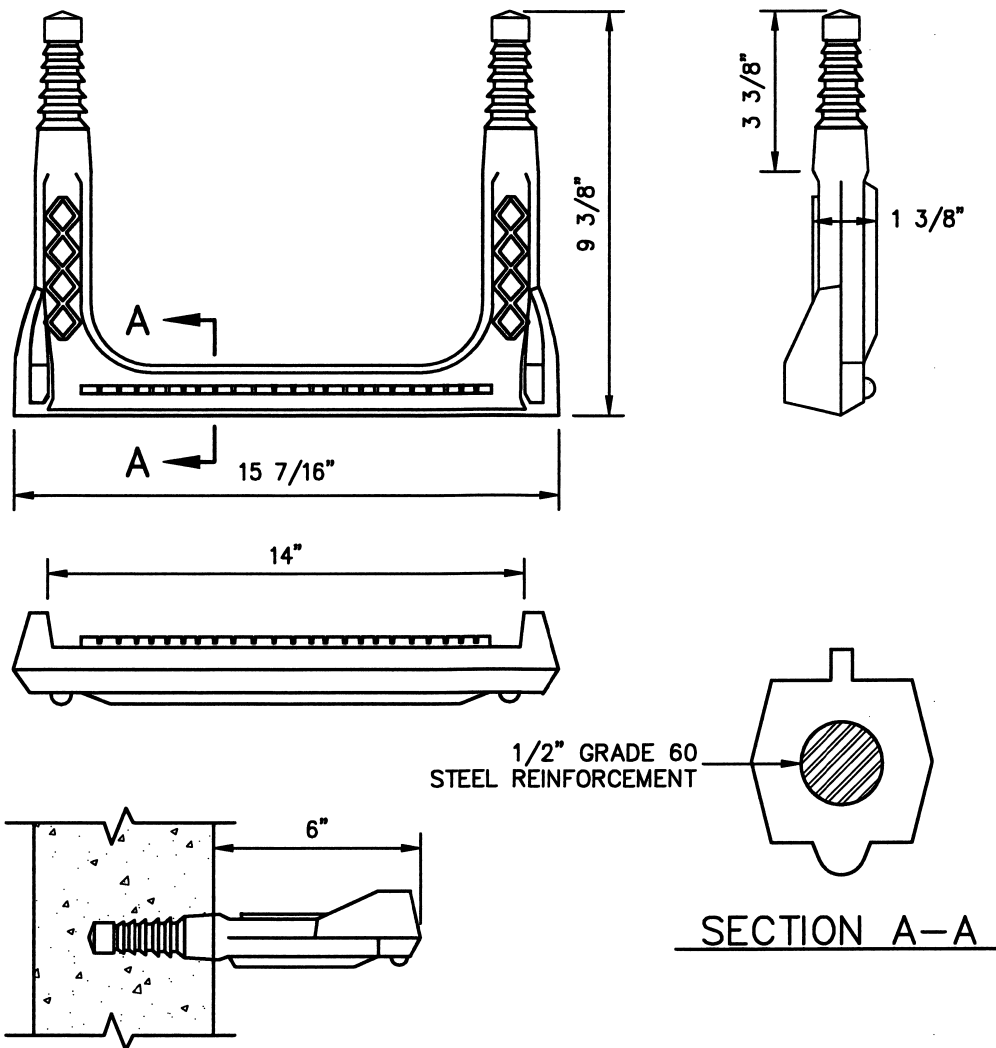


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COPOLYMER POLYPROPYLENE MANHOLE STEP (PLASTIC)

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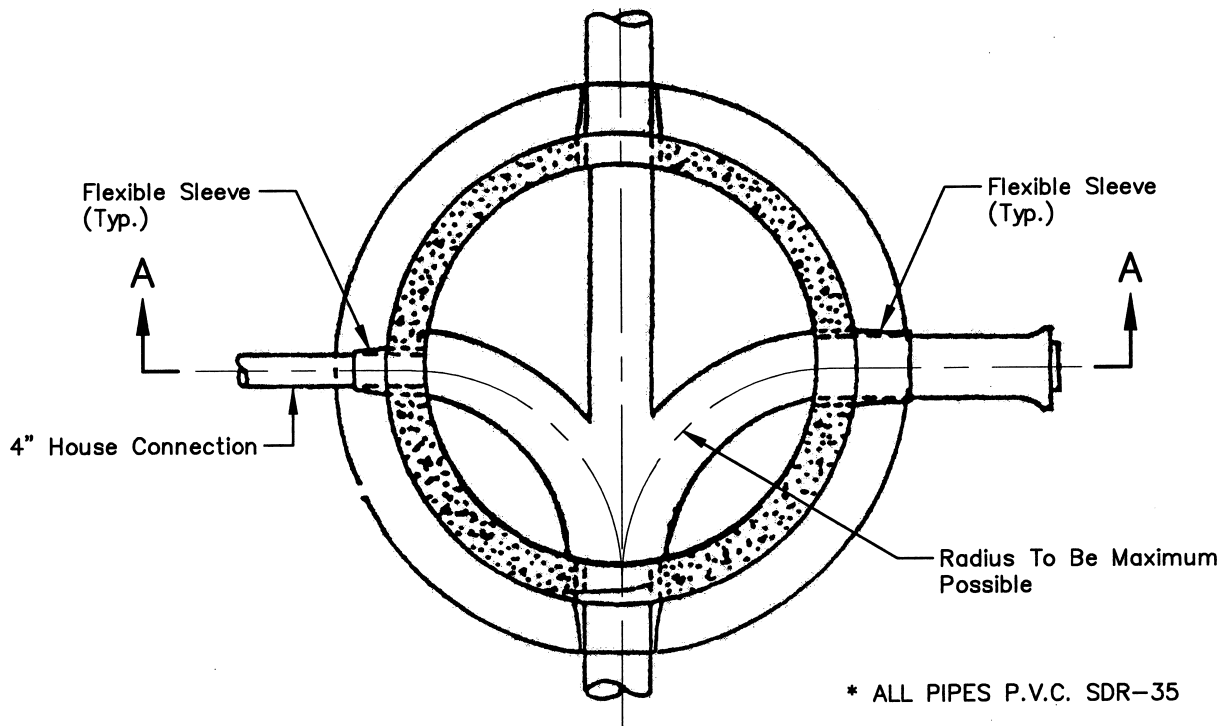
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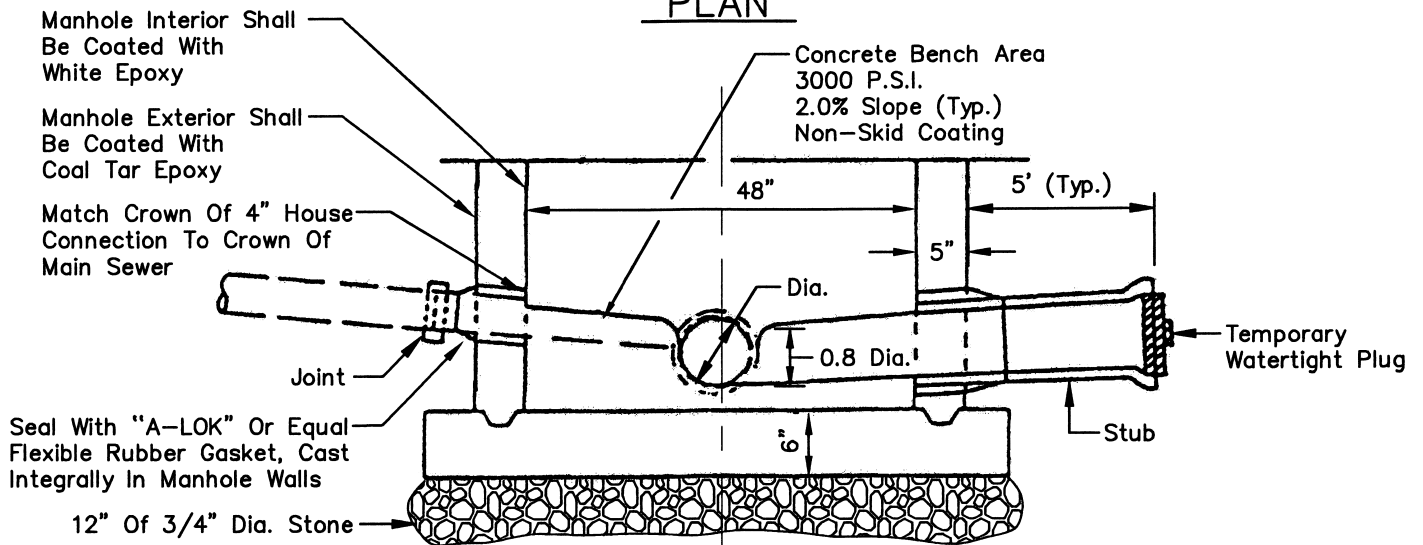
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* ALL PIPES P.V.C. SDR-35

PLAN



SECTION A-A

MANHOLE WITH STUB AND 4" SERVICE CONNECTION

NOTE:

1. House Connections Shall Only Be Permitted To The Sewer Main Except In Culdesacs, House Connections (Maximum Of Two) Shall Be Permitted To The Terminal (End Of Line) Manhole Provided That The Hole Is Precast Into The Manhole Or Cored By Machine.

**LITTLE EGG HARBOR
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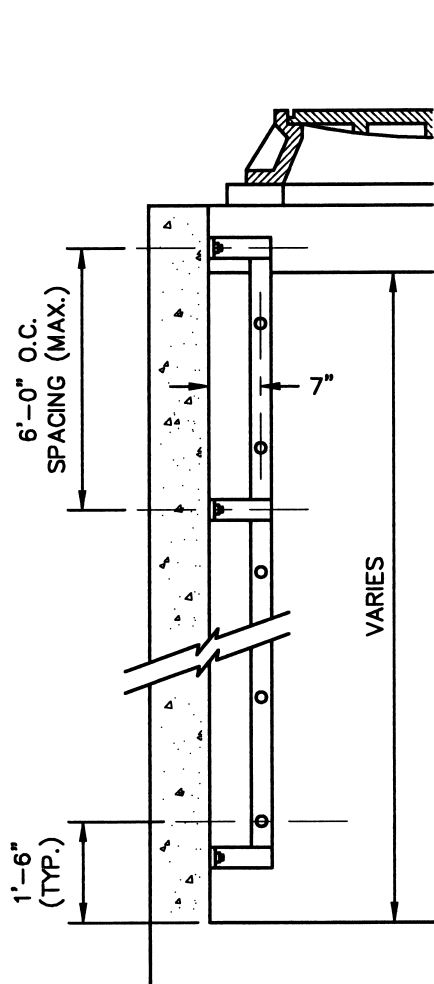


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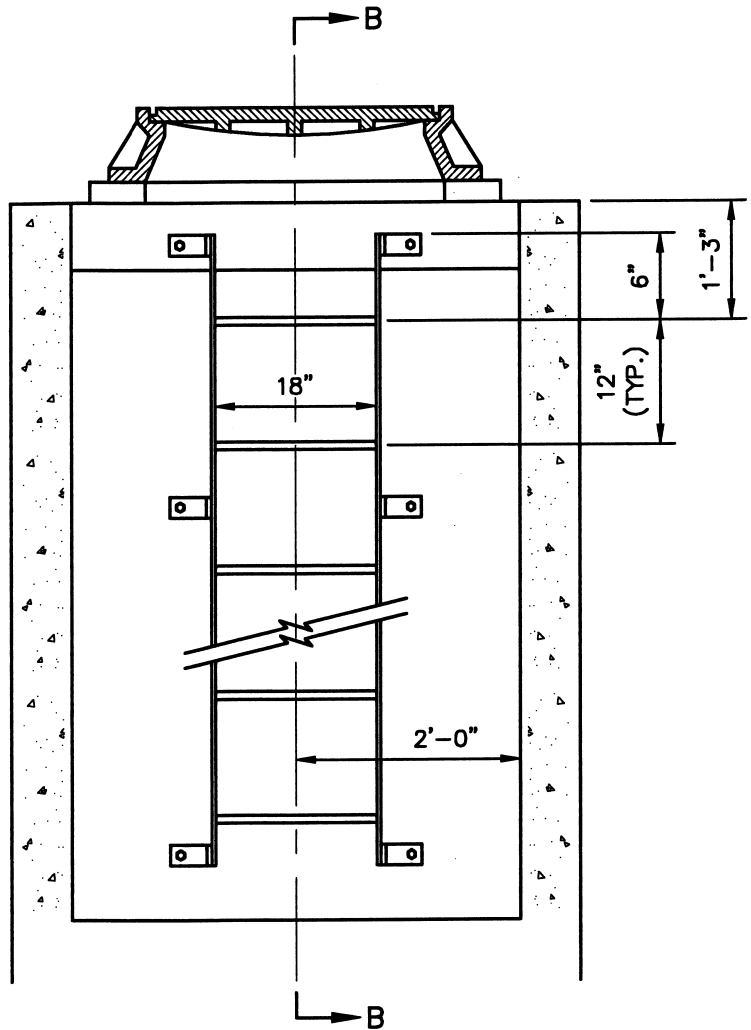
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SECTION B-B



SECTION

ALUMINUM LADDER

Note:

1. Rungs— $3/4"$ ϕ x 19" Lg. x 12" O.C. Rails & Brackets— $2\ 1/2"$ x $3/8"$ Fl. Bar Fastened To Concrete With $1/2"$ ϕ St. Stl. Bolts And Exp. Shields. Rungs To Extend Thru Rails, Weld All Around, Both Sides.

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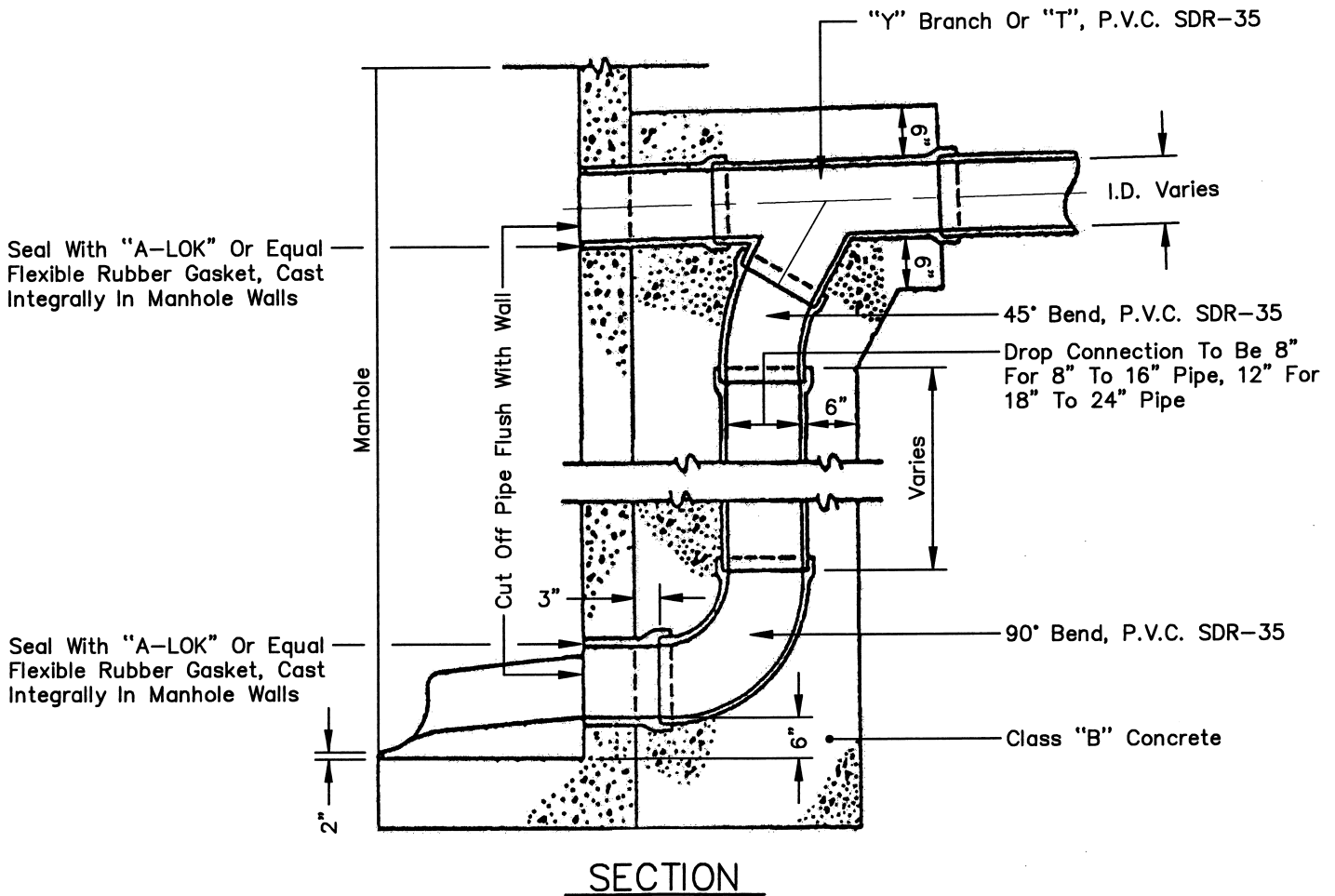


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TYPICAL DROP MANHOLE

NOTES:

1. All Drop Manholes Shall Be Internally Lined With A White Epoxy Coating. The Coating Shall Be Applied In A Minimum Of Two (2) Coats And Have A Total Thickness Of 16 mils. Benches Shall Be Non-Skid.
2. Inside Drop Manholes (Internally Lined) Shall Only Be Permitted Where "Inside Drop Manholes" Is Specifically Stated At The Manhole On The Utility Plan. All Other Drop Manholes Shall Be Outside Drop Manholes.
3. Manhole Exterior Shall Be Coated With Coal Tar Epoxy.

**LITTLE EGG HARBOR
MUNICIPAL UTILITIES AUTHORITY**

P.O. BOX 660
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PHONE : (609) 296-1168

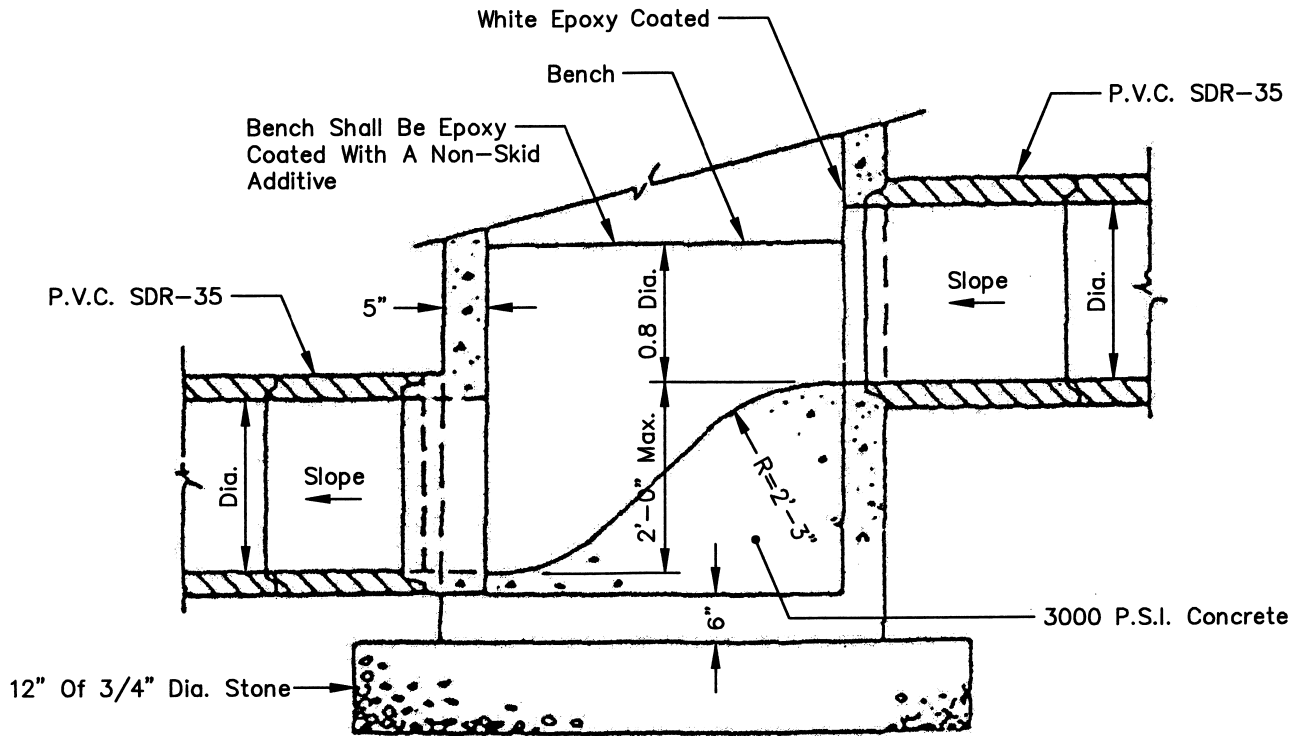


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MANHOLE CHUTE

NOTE:

1. A Manhole Chute Shall Only Be Used When The Difference Between The Outgoing And Incoming Pipe Inverts Is Less Than 2 Feet.

**LITTLE EGG HARBOR
MUNICIPAL UTILITIES AUTHORITY**

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PHONE : (609) 296-1168

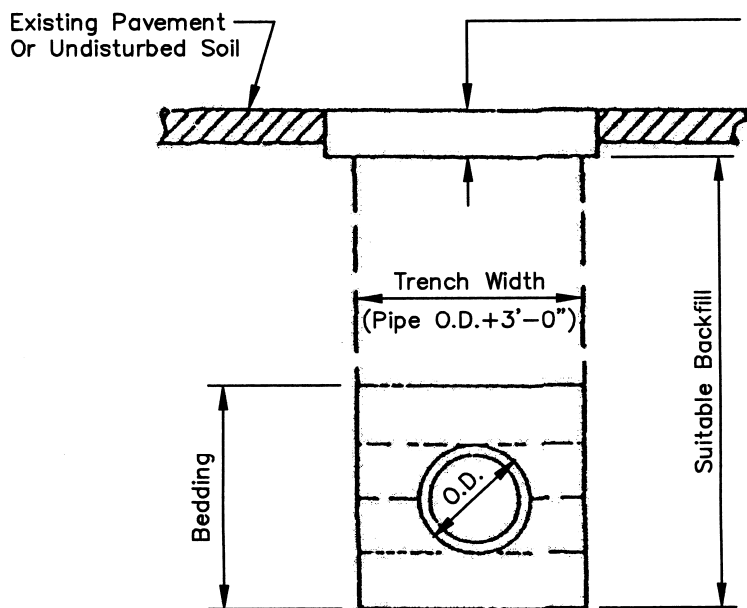


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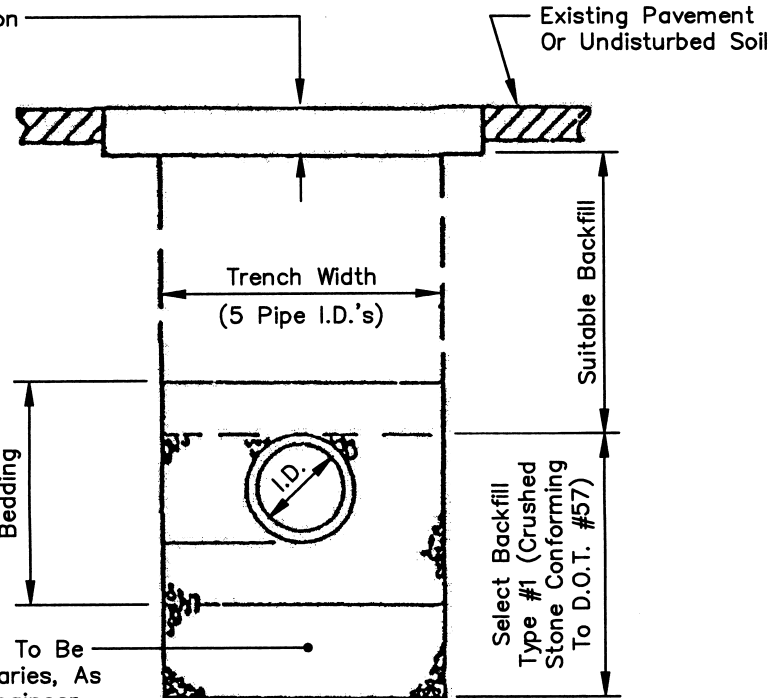
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For Applicable Surface Restoration
See Township / County Road
Restoration Requirements



STABLE BEDDING FOUNDATION

UNSTABLE TRENCH

P.V.C. GRAVITY SEWER PIPE BACKFILL DETAILS

LITTLE EGG HARBOR
MUNICIPAL UTILITIES AUTHORITY

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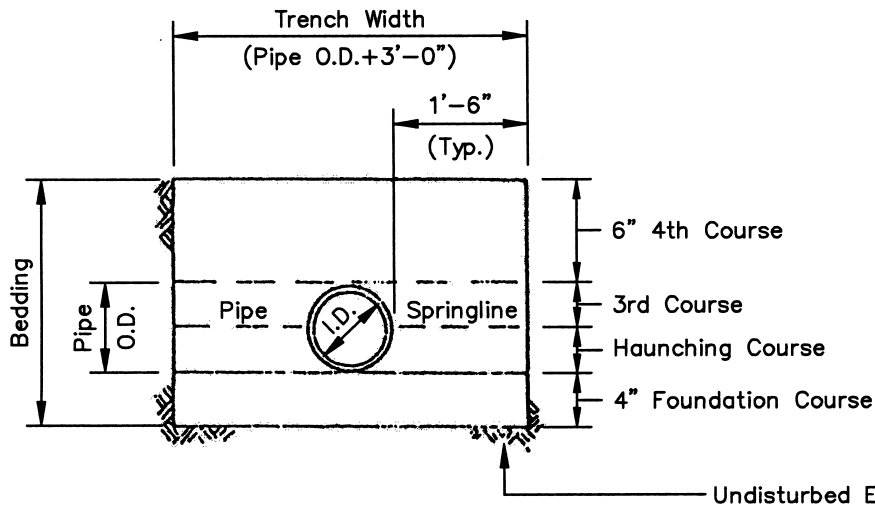
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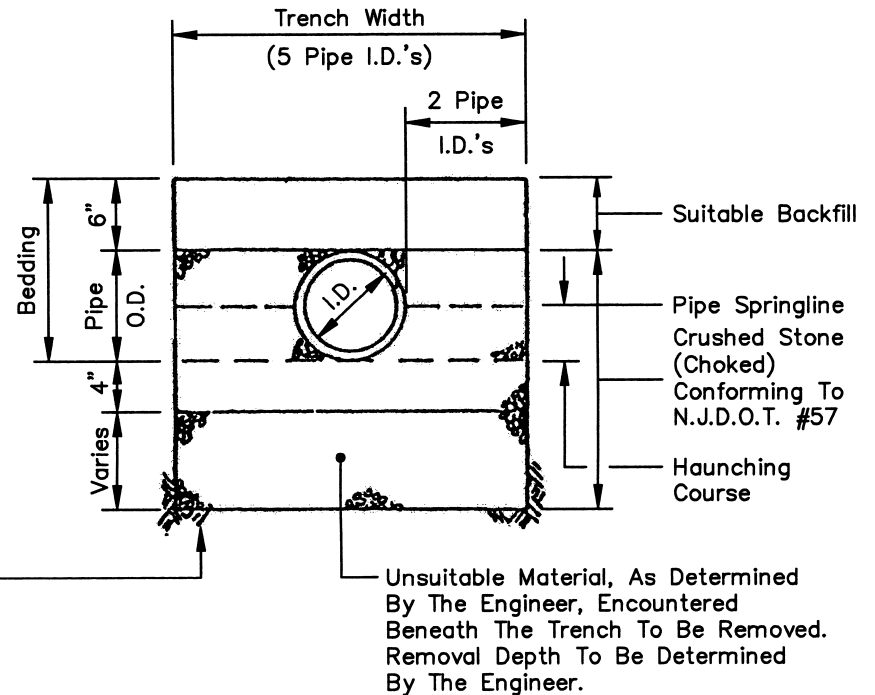
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PLATE No.
13



STABLE BEDDING FOUNDATION



UNSTABLE TRENCH

P.V.C. GRAVITY SEWER BEDDING DETAILS

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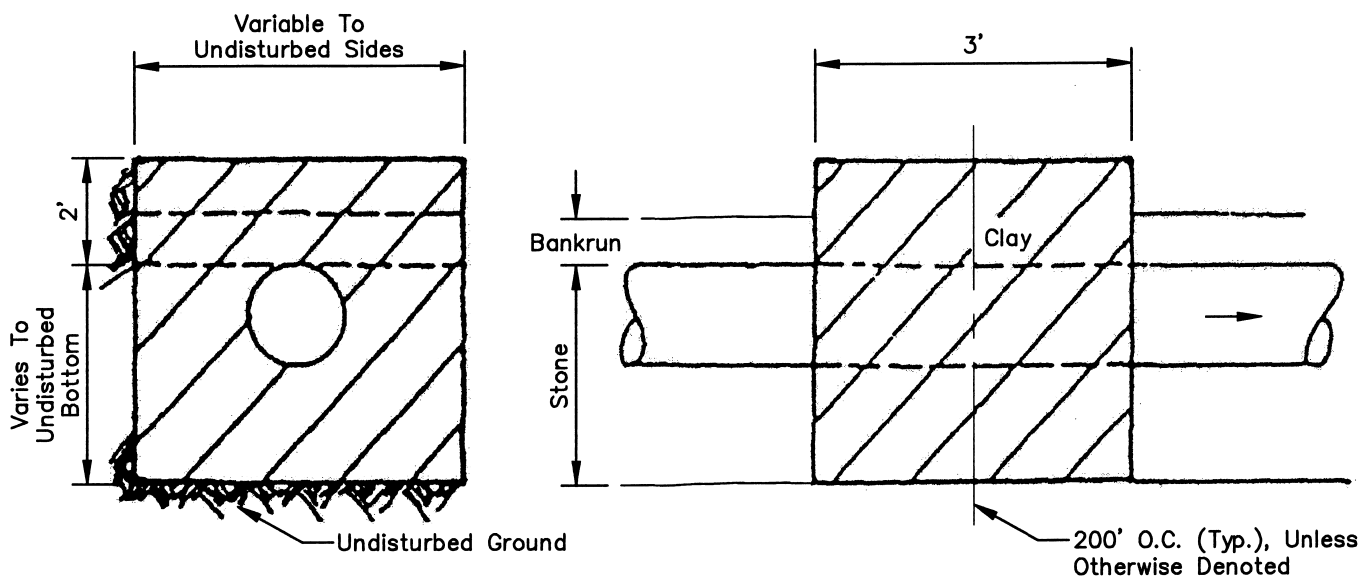
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14



ANTI-SEEP COLLAR DETAIL

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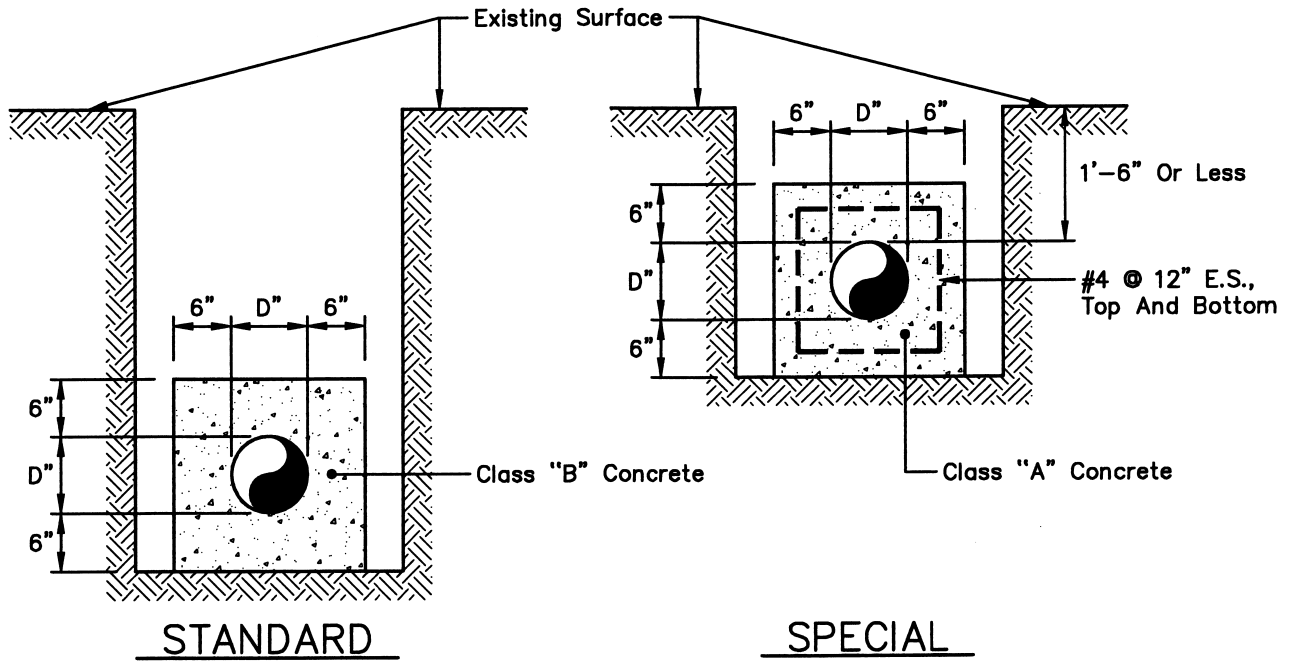


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ENCASEMENT IN CONCRETE

NOTE:

- Where The Pipe Is Encased, Pipe Material Shall Be Cement Lined Ductile Iron Pipe (D.I.P.), Class 50.

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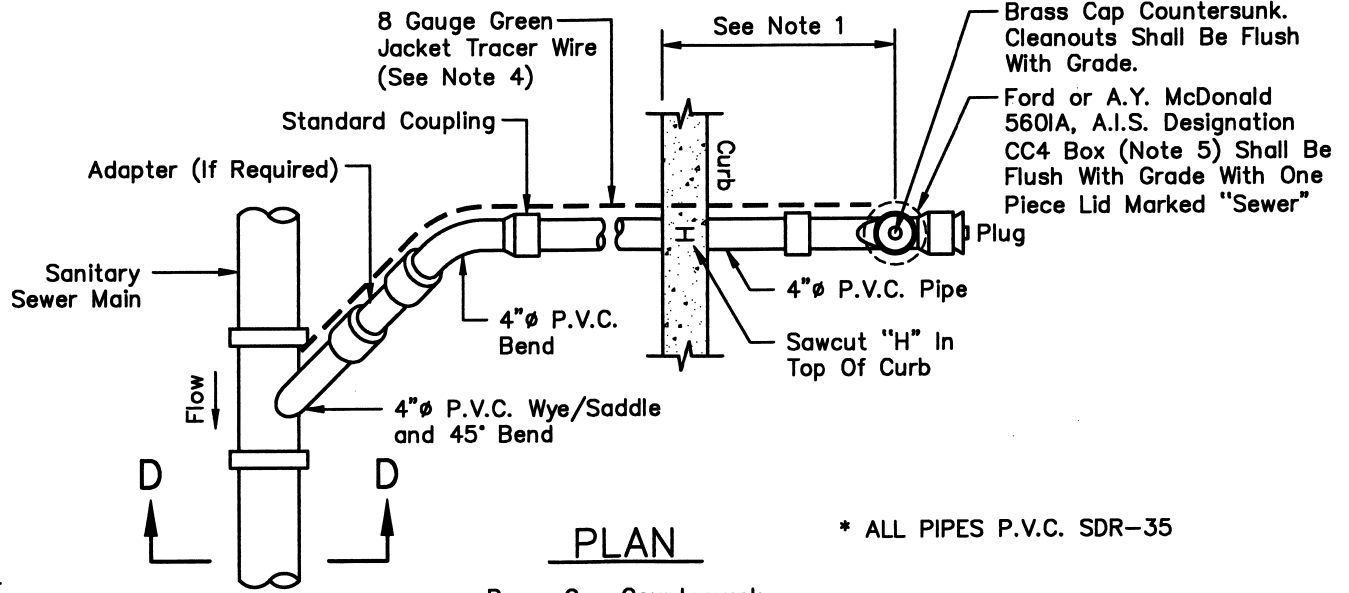


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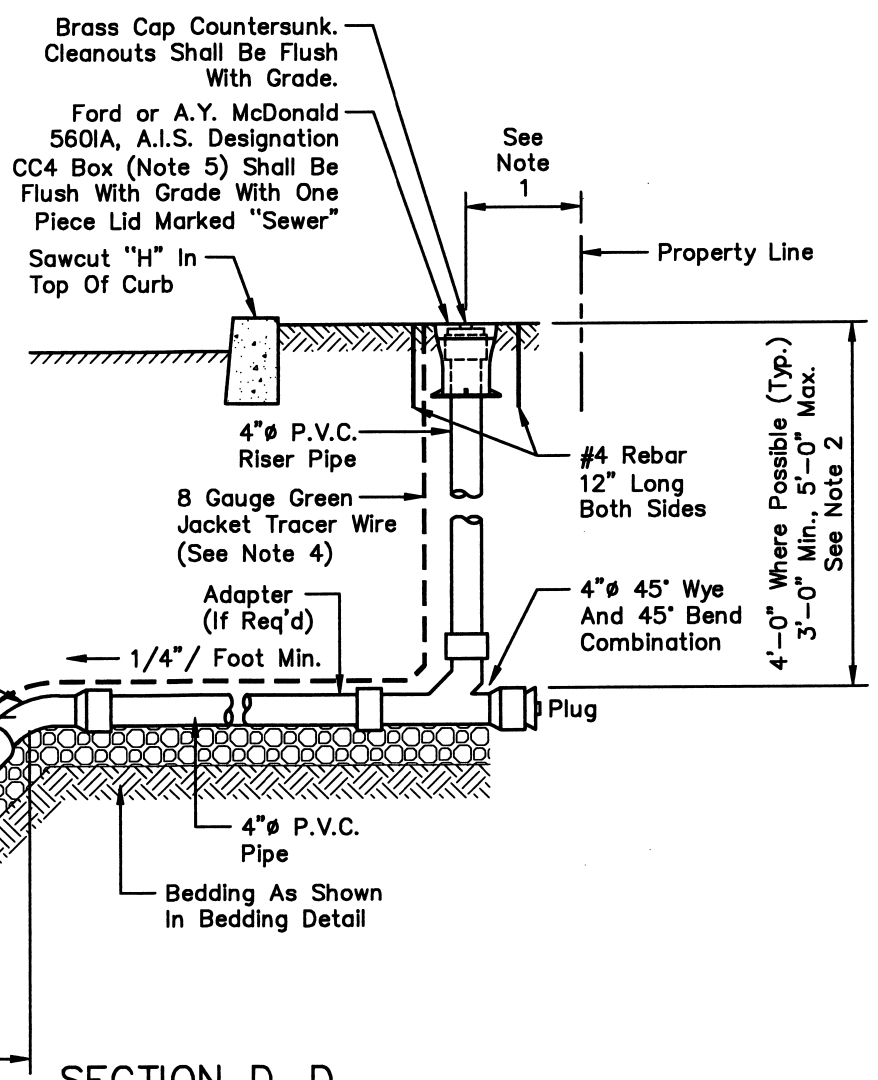


PLAN

* ALL PIPES P.V.C. SDR-35

NOTES:

1. Cleanouts Are To Be Located Two (2) Feet From Curb In The Planter Area (Not In Concrete, Pavers, etc.). Where Curbs Do Not Exist, Place Cleanout One (1) Foot Outside Of Property Line Within The R.O.W.
2. 1/4" Per Foot Slope Governs Over Conflicts With The 3 Foot Min. Cover Dimension.
3. All Couplings, Plugs, And Caps To Be Standard For Type Of Pipe Used And Installation To Be Watertight.
4. 8 Gauge Green Jacket Tracer Wire Must Be Ran From The Tap On The Main Along The Sewer Lateral To The Top Of The Cleanout Lid.
5. CC4 Boxes Shall Be Installed In Driveable Areas Only.



SECTION D-D

TYPICAL 4" SERVICE CONNECTION

LITTLE EGG HARBOR
MUNICIPAL UTILITIES AUTHORITY

P.O. BOX 660
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PHONE : (609) 296-1168

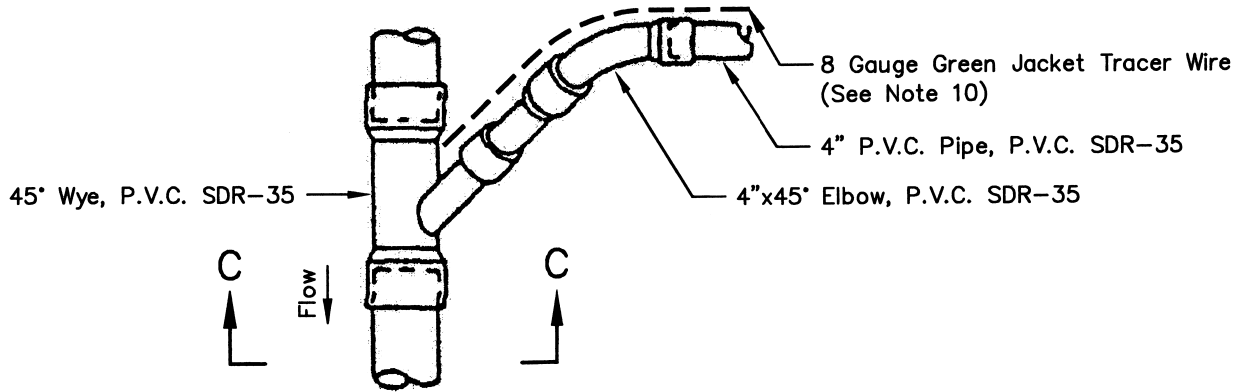


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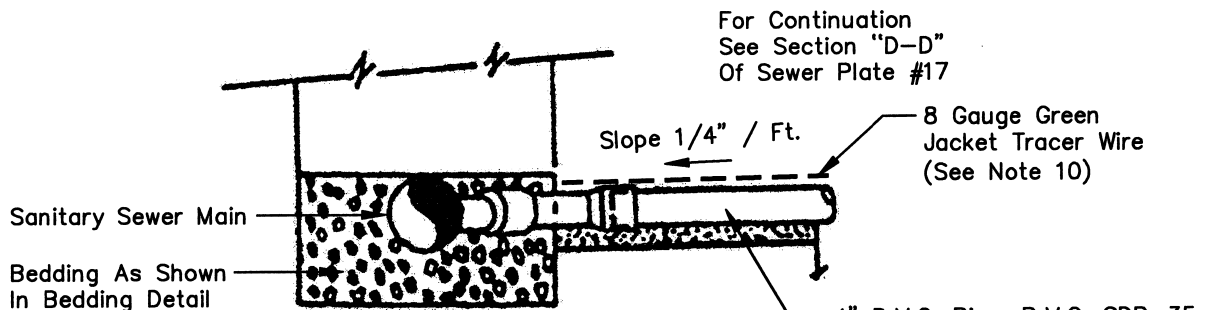
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SPECIAL WYE FITTING SERVICE CONNECTION



SECTIONAL ELEVATION "C-C"

TYPICAL 4" SERVICE CONNECTION MODIFIED

NOTES:

1. All Couplings, Plugs And Caps To Be Standard For Type Of Pipe Used And Installation To Be Watertight.
2. 1/4" Per Foot Slope Governs Over Conflicts With The 3 Foot Min. Cover Dimension.
3. Cleanouts Are To Be Located Two (2) Feet From Curb In The Planter Area. Where Curbs Do Not Exist, Place Cleanout One (1) Foot Outside Of Property Line Within The R.O.W.
4. Special Wye Fitting Service Connection Shall Only Be Permitted To Maintain The Three (3) Foot Minimum Cover Dimension.
5. Cleanouts Are Required On All Service Connections.
6. The Site Contractor Shall Extend The Service Piping To The Property Line.
7. Separation Between The Water And Sanitary Sewer Service Connection Shall Be Ten (10) Feet Typical And Five (5) Feet Minimum.
8. Cleanouts Shall Never Be Installed Outside Of The R.O.W. On Private Property And Never In Concrete Or Paved Areas, Including Pavers, Interlocking Blocks, Bricks, Etc.
9. No Connection Shall Be Backfilled Until Written Approval Is Made By The Engineer Or His Representative. Violators Will Be Required To Expose The Work For Inspection Before Acceptance Of The Connection.
10. 8 Gauge Green Jacket Tracer Wire Must Be Ran From The Tap On The Main Along The Sewer Lateral To The Top Of The Cleanout Lid.

**LITTLE EGG HARBOR
MUNICIPAL UTILITIES AUTHORITY**

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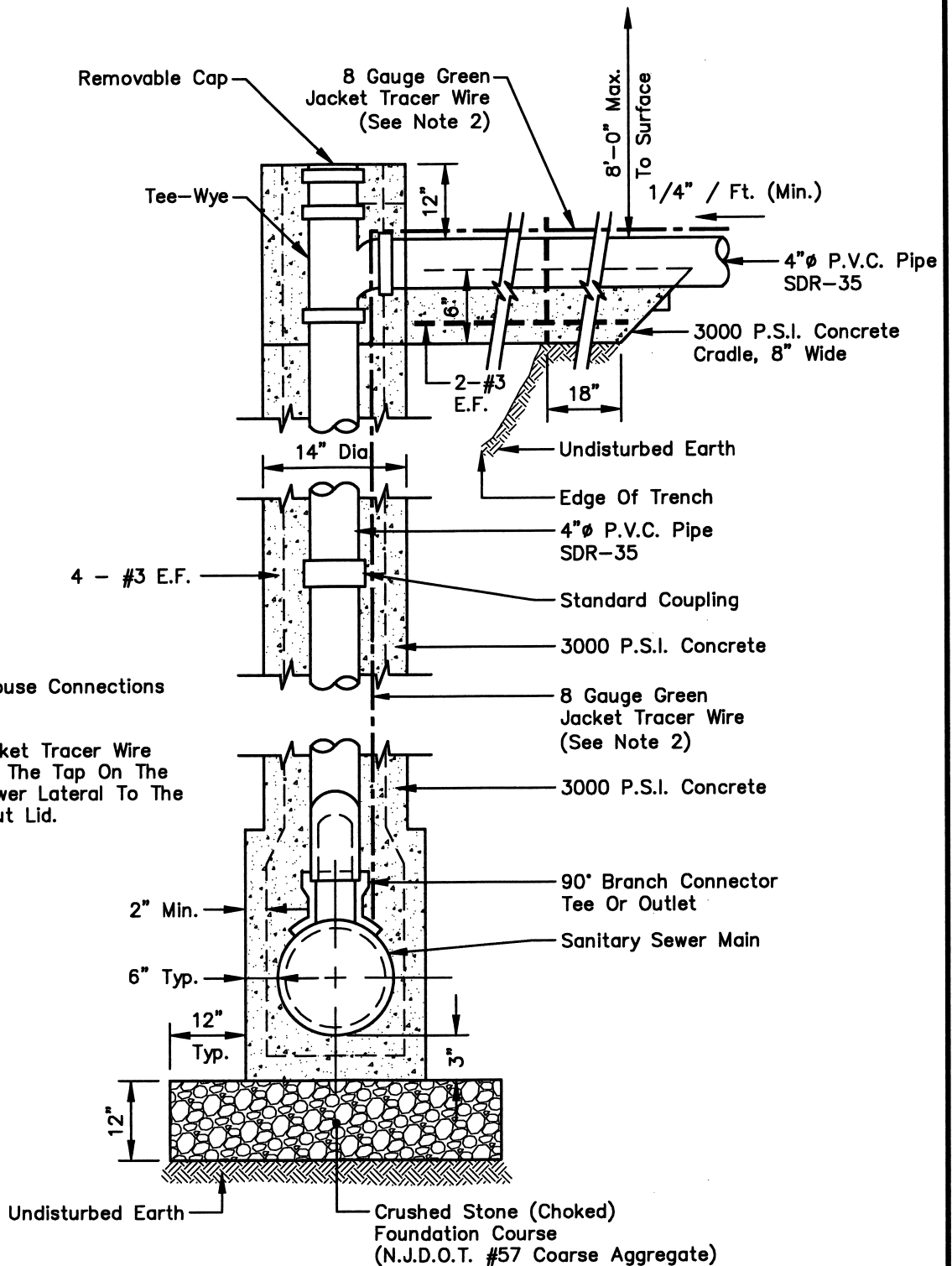


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NOTES:

1. No Shared Deep House Connections To Be Allowed.
2. 8 Gauge Green Jacket Tracer Wire Must Be Ran From The Tap On The Main Along The Sewer Lateral To The Top Of The Cleanout Lid.

ELEVATION

DEEP SERVICE CONNECTION

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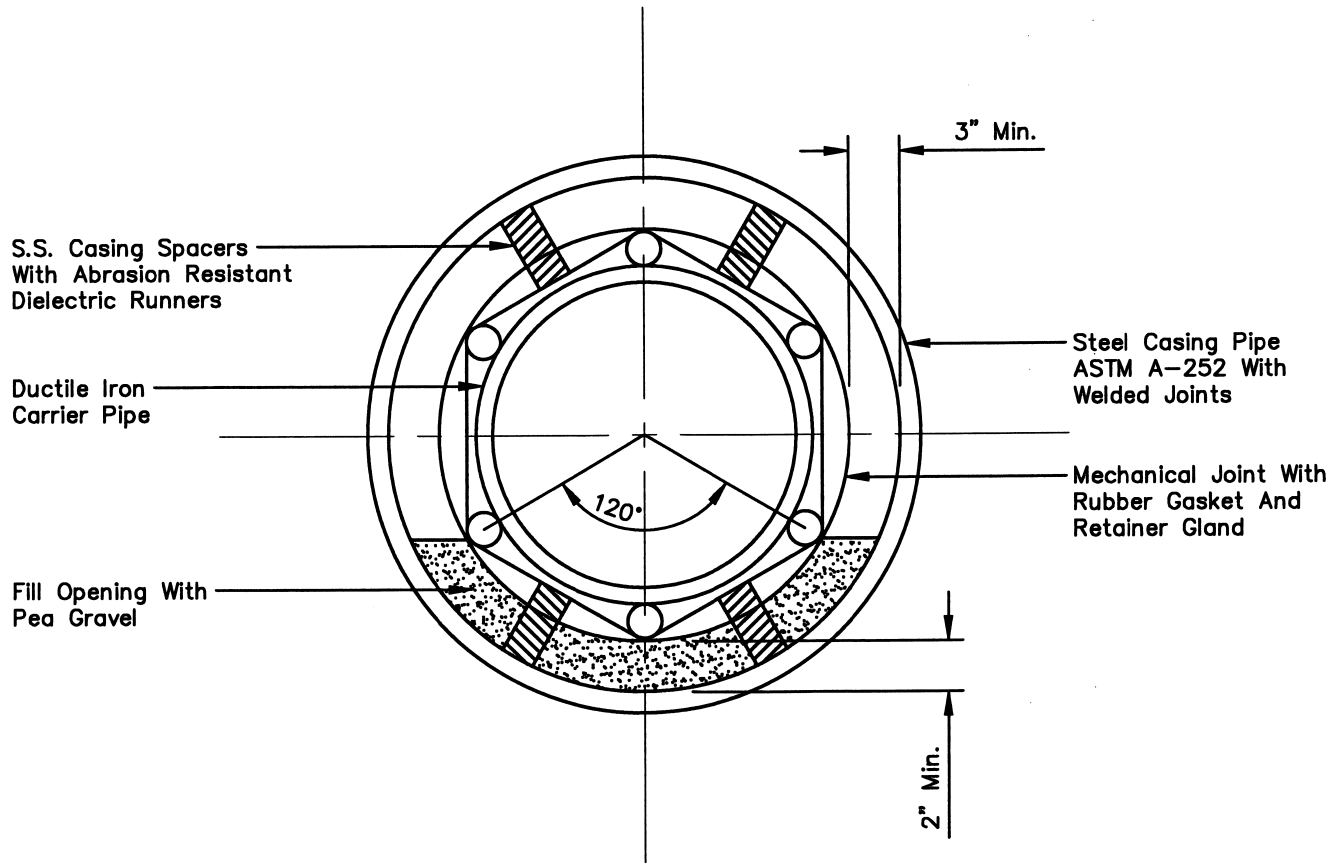
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CASING SIZE	MIN. CASING THICKNESS WITH	
	1:4 GROUT	WITHOUT GROUT
8"-24"	3/8"	1/2"
26"-34"	1/2"	5/8"
36" & Larger	5/8"	3/4"



CARRIER PIPE IN DRIVEN STEEL CASING

NOTES:

1. Install Rubber Pull-On End Seals With S.S. Bands At Each End Of The Casing Pipe.
2. A 1.0 Foot Thick Masonry Bulkhead Shall Be Constructed At Each End Of The Casing Pipe.
3. Restrain D.I.P. Carrier Pipe To Steel Casing With Steel Bars Welded To Casing and 3/4" Rods.

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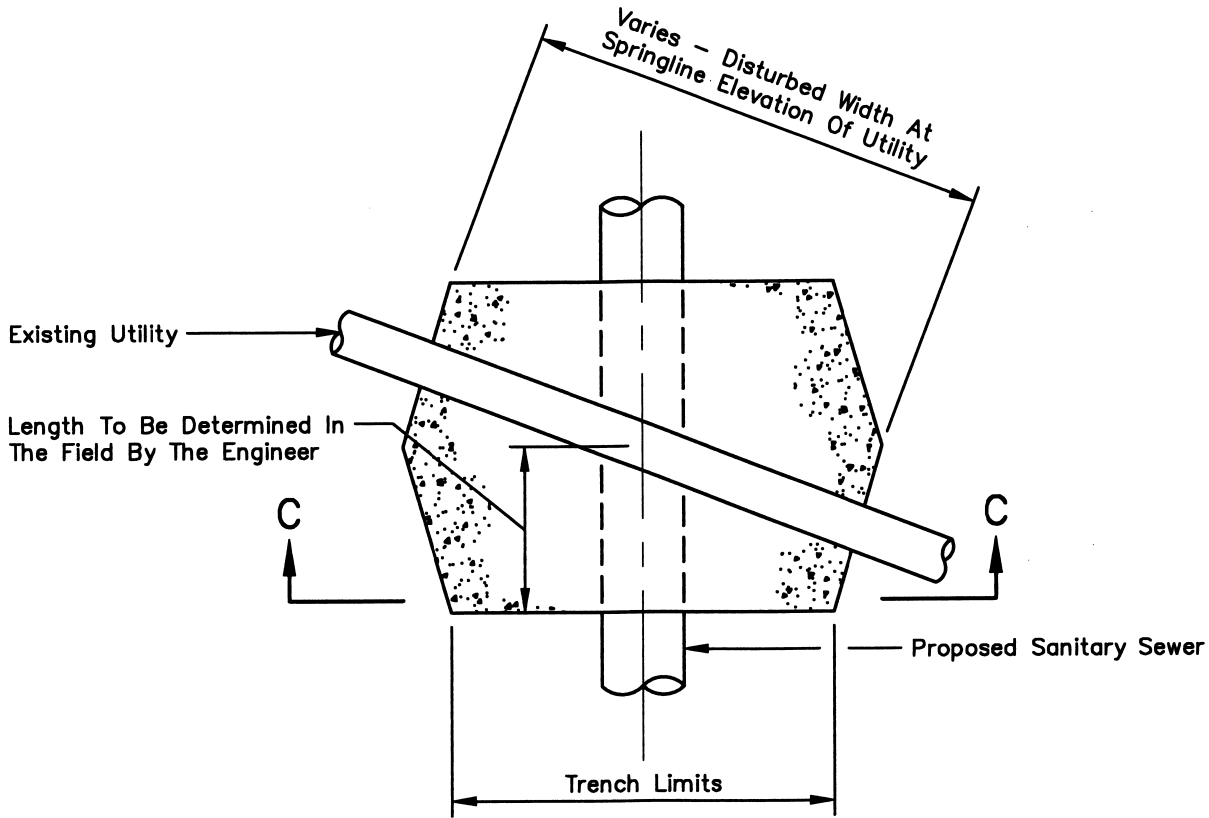


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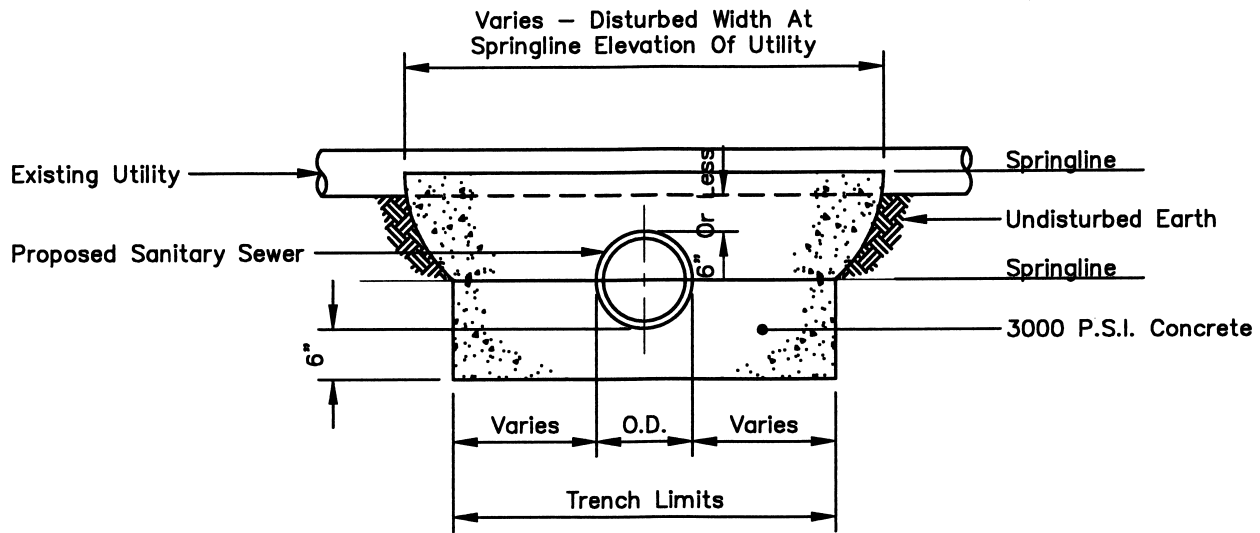
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PLAN



SECTION C-C

CONCRETE CRADLE DETAIL

NOTE:

Where Gravity Sewers Cross Under Or Over An Existing Sanitary Sewer, Storm Drain Or Other Utility Other Than Water And Where The Minimum Distance Between Them Is 6" Or Less, The Engineer May Elect To Construct A Concrete Cradle To The Springline Of The Upper Pipe. The Width Of The Cradle Shall Be Equal To The Actual Excavated Width Of The Trench (6" Below The Lower Pipe) And Varies To The Disturbed Trench Width At The Springline Of The Upper Pipe. The Length Varies And Is To Be Determined In The Field By The Engineer. Water And Sewer Shall Have An 18" Clearance.

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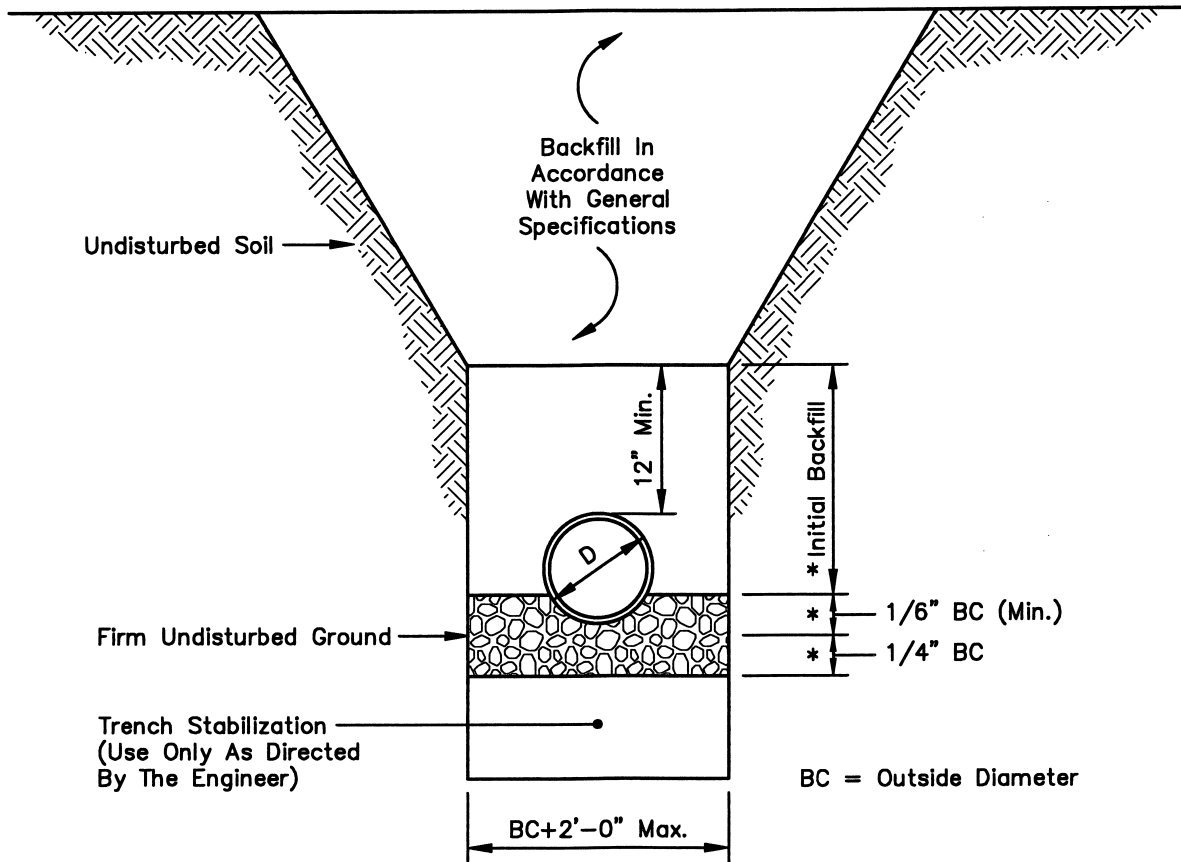


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* Initial Backfill And Bedding Material Shall Be Soil Aggregate Designation I-8 Conforming To The Requirements Of Article 901.09, Table 901-2 Of The Standard Specifications. 1983 Supplement Or Stone Crushings To Conform With A.A.S.H.T.O. Designation M-43-54 (1974) (A.S.T.M. Designation D448-54), Size No. 8, 1/8" To 3/8" (2.36 mm To 9.25 mm) Clean, Free Flowing And Shall Meet All A.S.T.M. C-33 Specifications For Quality And Soundness.

Install Class 52 D.I.P. When Depth Of Installation Exceeds 20' From Grade To Invert.

SDR-35 P.V.C. SANITARY SEWER TRENCH DETAIL

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