CHAPTER 199, P. L. 1954

AND

STANDARDS FOR THE CONSTRUCTION OF SEWERAGE FACILITIES FOR REALTY IMPROVEMENTS

New Jersey State Department of Health
Trenton 7, N. J.

STANDARDS FOR THE CONSTRUCTION OF SEWERAGE FACILITIES FOR REALTY IMPROVEMENTS

Pursuant to the authority vested in the State Commissioner of Health under the provisions of Chapter 199, P. L. 1954, the following Standards for the Construction of Sewerage Facilities for Realty Improvements are hereby promulgated this seventh day of December, 1954.

NEW JERSEY STATE DEPARTMENT OF HEALTH

Daniel Bergsma

DANIEL BERGSMA, M.D., M.P.H.,
State Commissioner of Health.

CONTENTS

CHAPTER 199, P. L. 1954

AN ACT to protect the public health by regulating the installation or erection of potable water supply and sewerage services upon certain realty improvements within this State and providing for the enforcement thereof.

BE IT ENACTED *by the Senate and General Assembly of the State of New Jersey:*

1. This act shall be known and may be cited as "The Realty Improvement Sewerage and Facilities Act (1954)."

2. As used in this act, unless the context clearly indicates otherwise, the following words shall have the following meanings:

(a) "Approved potable water supply" means water supply which has been approved by the State Department of Health, pursuant to Title 58 of the Revised Statutes, or any other law.

(b) "Approved sewer system" means a sanitary sewer system which has been approved by the State Department of Health pursuant to Title 58 of the Revised Statutes, or any other law.

(c) "Water supply system" means any installation or structure designed to provide domestic or potable water supply.

(d) "Sewerage facilities" means any installation or structure designed to provide for the collection and disposal of sewage.

(e) "Realty improvement" means any proposed new residence or other building the useful occupancy of which will require the installation or erection of a water supply system or sewerage facilities, other than one which is to be served by an approved water supply and an approved sewerage system.

(f) "Board" or "board of health" means the board of health of any municipality or the boards, bodies or officers in such municipality lawfully exercising any of the powers of a board of health under the laws governing such municipality, and includes any consolidated board of health or county board of health created and established pursuant to law.

(g) "State Department" means the State Department of Health.

(h) "Professional engineer" means a person licensed to practice professional engineering in this State.

3. No building permit for the construction of a realty improvement shall be issued by any municipal or other authority in this State nor shall the construction of any realty improvement be begun until the board of health having jurisdiction shall have certified that the proposed water supply system and sewerage facilities for the proposed realty improvements are in compliance with the provisions of this act and the standards for construction of such water supply and sewerage facilities promulgated by the State Department as herein provided and those established by local ordinances, where such local ordinances prescribe higher standards than those promulgated by the State Department.

4. Any board of health which has in its employ a licensed health officer or sanitary inspector of the first grade licensed by the State Department or a professional engineer shall issue certifications as provided in section 3 of this act if such health officer, sanitary inspector or professional engineer certifies to the board that the application and accompanying engineering data are in compliance with this act and the standards for construction hereinbefore referred to.

A board of health not having personnel as described above may issue such certification, if an applicant for certification files with the board a certificate made by a professional engineer stating that the proposed water supply system and sewerage facilities are in compliance with this act and said standards for construction.

5. Application for certification shall be in writing and shall be made on a formal application blank when such blanks are provided by the board, and each application shall include such engineering data as shall be prescribed by said standards for construction.

Copies of all applications and the accompanying engineering data for certifications to cover 50 or more realty improvements shall be filed with or mailed to the State Department on the date on which application is made to the board.

Copies of all certifications by boards of health covering 50 or more realty improvements shall be mailed to the State Department by the board issuing the same on the date of issue.

6. The board of health shall issue or deny certification within 15 days after receiving an application for certification except that, in case the board finds the data submitted by an applicant incomplete, the time for acting thereon shall be extended by 15 days beyond the date of submission of adequate supplementary or amendatory data. Denial of certification shall be supported by a statement of the reasons for such action.

7. The State Department may revoke any certification covering 50 or more realty improvements; provided, that such action is taken within 15 days of the date of certification by the board of health; and provided, that such action is supported by a statement of the reasons therefor. If after revocation of any certification by the State Department, or denial of certification by the board, in any such case, such application is amended or supplemented, a copy thereof shall be filed with or mailed to the department on the date of its submission.

8. If any change in the physical conditions of any lands of a realty improvement, which will materially affect the operation of the water supply system or sewerage facilities covered by any certification issued under this act, shall be made after certification, the certification shall become null and void and a new certification shall be obtained before construction shall proceed. If 50 or more realty improvements are covered by such a valid certificate a copy of the application for a new certificate shall be mailed to the State Department on the date upon which it is submitted to the board.

9. In case any certification is denied by the board of health or is revoked by the State Department, a hearing shall be held thereon before the board or the State Department, as the case may be, within 15 days after request therefor is made by the applicant and upon such hearing the board of health or the State Department, as the case may be, shall affirm, alter or rescind its previous determination and take action accordingly within 15 days after the date of such hearing.

10. A board of health shall have power to make, or cause to be made, such inspections and tests as may be necessary to carry out the purposes of this act and its authorized representatives shall at all times have the right to enter upon lands of realty improvements for said purposes.

11. No septic tank, tile field, seepage pit or system or structure designed to provide sewerage facilities to any realty improvement shall be covered from view until the same has been inspected by an authorized representative of the board of health and permission to cover the same has been given by the board or its authorized representative.

12. Copies of any ordinances, which have been or shall be adopted by any municipality, establishing requirements equivalent to those required by this act and minimum standards for construction equivalent to those promulgated or to be promulgated by the State Commissioner of Health under this act, shall be filed with the State Department within 10 days after the effective date of this act or within 10 days after the adoption thereof, whichever shall be later.

13. There shall be appointed biennially an advisory committee to draft and recommend standards for the construction of water supply systems and sewerage facilities for realty improvements in order to insure their safety, adequacy and propriety for the purposes for which they are to be installed. One member of such committee shall be appointed by the Commissioner of Conservation and Economic Development from his department, 1 member shall be appointed by the State Commissioner of Health from his department and 1 member shall be appointed by the State Commissioner of Health from each list of 3 persons submitted by each of the following associations, namely:

New Jersey Association of Real Estate Boards,
New Jersey Health Officers Association,
New Jersey Society of Professional Engineers,
New Jersey State League of Municipalities,
New Jersey Home Builders Association,
New Jersey Institute of Municipal Attorneys, and
New Jersey Title Insurance Association.

In event that any of said associations shall fail to submit a list of such names within 10 days after written request to it by the State Commissioner of Health, the State Commissioner of Health may make the appointment according to his own discretion.

14. Such draft of recommended standards shall be submitted to the State Commissioner of Health who, having given due consideration to the same, shall promulgate standards for the construction of water supply systems and sewerage facilities for realty improvements in order to insure their safety, adequacy and propriety for the purposes for which they are to be installed, which standards shall constitute the minimum requirements to be met by applicants for certifications under this act. The standards shall specify the engineering data required to be submitted with applications for certification which shall include a plan of the land to be used for the realty improvement, elevations of existing and proposed physical features, reasonable details on surface and subsurface soil conditions, and, details of the type of construction and the physical features of the proposed water and sewerage facilities, and shall specify minimum requirements for the construction or erection of proposed water supply systems and sewerage facilities. Amendments of standards for construction shall be made in the manner prescribed for the establishment of the original standards and the advisory committee shall be consulted on all proposed amendments.

15. In case the State Commissioner of Health shall not concur in any of the advisory committee's recommendations as to the standards for construction or any amendments thereof or supplements thereto, and shall promulgate standards not in accord with the committee's recommendations, the committee may appeal to the State Public Health Council thereon and shall be entitled to a hearing before the Council. After such hearing the Council shall make appropriate recommendations to the State Commissioner of Health who shall in turn make such changes, if any, in the standards for construction promulgated by him, as he deems in the interest of the public health.

16. No person or corporation shall construct or install any water supply system or sewerage facilities for a realty improvement, which are not in accordance with the provisions of the application or any amendment thereof or supplement thereto, made for any certification on which a certification shall be issued as herein provided, and any person or corporation violating any provisions of this section shall be subject to the penalties and remedies hereinafter provided for, which may be recovered and enforced by the board of health having jurisdiction in the municipality in which such violation shall occur.

17. Any person or corporation violating any provision of this act shall be liable to a penalty of $200.00 for each offense and an additional penalty of $25.00 for each day of continuance of violation after notice of the violation shall have been given to such person or corporation by the board of health having jurisdiction in the municipality in which such

violation occurs, to be collected and enforced by summary proceedings for the collection of penalties pursuant to the "Penalty Enforcement Law."

18. The board of health having jurisdiction in the municipality in which any violation of any provision of this act occurs shall have the right to order all further work in and about any water supply system or sewerage facilities, which is being erected or installed in violation of this act, to be stopped forthwith, except such work as shall be necessary to remedy such violation, and, thereafter, to continue such work without any violation of any of the provisions of this act, and after the issuance of any such order and the service of a copy thereof upon any person connected with or working in and about the erection or installation of any such water supply system or sewerage facilities, or any part thereof, no further work shall be done thereon except as aforesaid and any person or corporation who, after having been served with a copy of such an order, shall do any work or cause or permit any work to be done in or about the same, except such as is hereinbefore provided, shall be liable to a penalty of $200.00 to be collected and enforced by summary proceedings for the collection of penalties pursuant to the "Penalty Enforcement Law."

19. In case any water supply system or sewerage facilities or any part thereof is about to be, or is, or has been, erected or installed after the effective date of this act in violation of any of the provisions of this act as aforesaid, such erection or installation is hereby declared to be a nuisance and the board having jurisdiction in the municipality in which the realty improvement is situate, may institute a civil action for an injunction to prohibit the further violations of this act in any court of competent jurisdiction, which court shall have power to order an abatement of such nuisance, and to prevent its further maintenance, and any further violation of this act, by injunction or otherwise according to the practice of said court.

20. This act shall take effect September 1, 1954.

Approved July 28, 1954.

STANDARDS FOR THE CONSTRUCTION OF SEWERAGE FACILITIES FOR REALTY IMPROVEMENTS PROMULGATED BY THE STATE COMMISSIONER OF HEALTH, DECEMBER 7, 1954

SECTION 1

DEFINITIONS

1.1. The words, terms or phrases listed below for the purposes of these Standards shall be defined and interpreted as follows:

Administrative Authority. An Administrative Authority is the board of health.

Alter. Alter shall mean and include replacing or repairing any portion of an existing individual sewage disposal system.

Authorized Agent. An authorized agent is a licensed health officer, sanitary inspector, plumbing inspector, or any other properly qualified and licensed person who is delegated to function within specified limits as the agent of the Administrative Authority.

Approved. Approved shall mean accepted or acceptable under applicable specifications stated or cited in these Standards, or accepted as suitable for the proposed use under procedures and powers of administration delegated in these Standards.

Building Sewer. The building (house) sewer is the pipe extending from the outer wall of the building, or as defined in the plumbing code, to the septic tank or approved place of disposal other than a public sewer and the lines to all parts of the system except those classified as distribution lines.

Certification. Certification by the board of health is a written statement, certifying that the proposed sewerage facilities for the proposed realty improvement are in compliance with the provisions of Chapter 199, P. L. 1954 and these Standards.

Cesspool. A cesspool is a covered pit with open-jointed lining into which raw sewage is discharged, the liquid portion of which is disposed of by seepage or leaching into the surrounding porous soil, the solids or sludge being retained in the pit.

Commercial Standards 177-51. Commercial Standards 177-51 refers to the Commercial Standards for Bituminous-Coated Metal Septic Tanks (Single Compartment Residential), a voluntary standard of the trade published by the United States Department of Commerce in cooperation with the National Bureau of Standards.

Construct. Construct shall mean and include building or installing a new individual sewage disposal system or enlarging an existing individual sewage disposal system.

Disposal Area. The disposal area is considered as the entire area used for underground dispersion of the liquid portion of sewage. It may consist of a seepage pit or a disposal field (see definition) or a combination thereof.

Disposal Bed. A disposal bed consists of a shallow area from which the entire earth contents have been removed, and the excavation partially filled with a satisfactory filtering material in which distribution lines have been laid and the entire area covered with top soil and a suitable vegetative growth.

Disposal Field. A disposal field is used for dispersion of the liquid portion of sewage into the ground as near the surface as possible. A disposal field may consist of disposal trenches, a disposal bed or a combination thereof.

Disposal Trench. Disposal trenches are shallow ditches with vertical sides and flat bottoms partially filled with a satisfactory filtering material in which a single distribution line has been laid, covered with top soil and a suitable vegetative cover.

Distribution Box. A distribution box is a water-tight structure which receives sewage from a septic tank and distributes such sewage in equal portions to two or more pipe lines leading to the disposal area.

Distribution Lines. Distribution lines consist of a series of open-jointed or perforated pipe used for the dispersion of sewage into disposal trenches or disposal beds.

Dosing Tank. A dosing tank is a water-tight receptacle located between a septic tank and a disposal area equipped with an automatic siphon device designed to discharge sewage intermittently into the distribution lines in amounts proportioned to the capacity of such lines and to provide adequate rest periods between such discharges.

Dry Well. A dry well is a covered pit with open jointed lining through which drainage from roofs, basement floors or area-ways may seep or leach into the surrounding soil.

Expansion Attic. An expansion attic is that part of a house left unfinished but designed to be finished as a bedroom or bedrooms by subsequent improvement and accessible by permanent stairways or designed so that stairways may be installed.

g/d. g/d is the abbreviated form for gallons per day (24 hours).

Grade. Grade is the slope or fall of a pipe line or the ground surface. It may be expressed as fall or drop per foot, per 100 feet, or in per cent.

Grease Trap. A grease trap is a device in which the grease present in sewage is intercepted, congealed by cooling, and from which it may be skimmed from the surface of the liquid waste for disposal.

House Sewer. See Building Sewer.

Individual Sewage Disposal System. An individual sewage disposal system is a sub-surface sewage disposal system designed and constructed to treat sewage in a manner that will retain most of the settleable solids in a water-tight tank and to discharge the liquid portion to an adequate disposal area.

Industrial Waste. Industrial wastes are liquid wastes free of fecal matter resulting from the processes employed in industrial establishments.

Invert. An invert is the floor, bottom or lowest portion of the internal cross section of a closed conduit, used in these Standards with reference to the pipes or fittings conveying sewage.

Locate. Locate shall mean designating the site or place of an individual sewage disposal system.

Main Vent. See Vent Stack.

Multiple Compartment Tanks. Multiple compartment tanks are septic tanks containing more than one settling compartment or chamber in series.

Percolating Area. The percolating area is that portion of soil utilized in a disposal area as the effective disposal media for sewage.

Person. Person includes corporations, companies, associations, societies, firms, partnerships and joint stock companies as well as individuals.

Professional Engineer. A person licensed to practice professional engineering in this State.

Realty Improvement. Any proposed new residence or other building the useful occupancy of which will require the installation or erection of a water supply system or sewerage facilities, other than one which is to be served by an approved water supply and an approved sewerage system.

Sanitary Sewage. Sanitary sewage is any liquid waste containing animal or vegetable matter in suspension or solution or the water-carried wastes resulting from the discharge of water closets, laundry tubs, washing machines, sinks, dishwashers or any other source of water carried waste of human origin or containing putrescible material.

Sanitary Sewer. A sanitary sewer is a pipe which carries sewage and to which storm, surface and ground waters are not intentionally admitted.

Scum. Scum is a mass of sewage solids floating at the surface of sewage and bouyed up by entrained gas, grease or other substances.

Seepage Pit. A seepage pit is a covered pit with open jointed lining through which septic tank effluent or laundry waste may seep or leach into the surrounding soil.

Septic Tank. A septic tank is a water-tight receptacle which receives the discharge of sewage from a building sewer or part thereof, and is designed and constructed so as to permit settling of settleable solids from the liquid, digestion of the organic matter by detention, and discharge of the liquid portion into a disposal area.

Siphon. A siphon is a hydraulically operated device designed to rapidly discharge the entire contents of a dosing tank between predetermined hydraulic levels.

Trap. A trap is a fitting or device so designed and constructed as to provide, when properly vented, a liquid seal which will prevent the back passage of air without materially affecting the flow of sewage or waste water through it.

Vent Stack. A vent stack is a vertical vent pipe installed within a building for the purpose of providing circulation of air to and from any part of a building plumbing system.

Water Course. A water course is any stream, body of water drained by a stream, dry ditch, or any depression that will permit drainage into any waters of the State.

Waters of the State. The waters of the State include the ocean and its estuaries, all springs, streams and bodies of surface or ground water whether natural or artificial.

SECTION 2

GENERAL REQUIREMENTS

2.1 *Design.*—The design of an individual sewage disposal system shall take into consideration location with respect to wells or other sources of water supply, topography, existing individual sewage disposal systems on adjacent properties, water table, soil characteristics, available area, expected volume of sewage and shall comply with these and other provisions of these Standards regarding design.

2.2 *Volume of Sanitary Sewage.*—Each unit of the disposal system shall be designed to adequately treat the estimated volume of sanitary sewage to be discharged from the premises to be served. The volume of sewage flow shall be based on the estimated contributory population and the resultant expected daily quantities of sewage determined from the following table:

Source	*Gallons Per Person Per Day*
1. Cottages, seasonal occupancy	50
2. Single family dwellings	75
3. Multiple family dwellings (apartments)	50–75
4. Rooming houses	40
5. Boarding houses*	50
a. For each non-resident boarder	10
6. Hotels*	
a. Without private baths	50
b. With private baths	60
7. Motels and tourist cabins	25
8. Trailer camps*	
a. With central sanitary facilities	35
b. With individual sanitary facilities	50
9. Restaurants	
a. Sanitary waste only, per patron	4.5
b. Kitchen waste only, per patron	5.0–7.5
10. Camps*	
a. Barracks type	50
b. Cottage type	40
c. Day camps (no meals served)	15
11. Day schools	
a. No cafeteria or showers	5
b. With cafeteria and no showers	15
c. With cafeteria and showers	20
12. Boarding schools*	75
13. Day workers: Office, Industrial, etc.	15
14. Hospitals (depending on type)	150–250
15. Institutions other than hospitals	75–125
16. Picnic Grounds	
a. Toilet only	5
b. Toilet and showers	10
17. Swimming pools and bath houses	10
18. Club houses*	
a. With resident members	60
b. For each non-resident member	25
19. Self-service laundries	50 gals./wash

* Includes kitchen waste @ 10 gallons/person/day. If laundry wastes are anticipated estimated flows shall be increased by 35 to 50 gallons per wash.

When more than one use will occur, the multiple usage shall be considered in determining total flow. Small industrial plants maintaining a cafeteria and/or showers; club houses or hotels maintaining swimming pools and/or laundries are typical examples of multiple uses.

Usages other than those listed above shall be considered in relation to established flows from known or similar installations.

2.3 *Type of System.*—The type of system to be installed shall be determined on the basis of location, topography, soil permeability, and ground water elevation. The system shall consist of a septic tank discharging its effluent to a suitable subsurface disposal area as hereafter described, except as it may be modified in accordance with Section 2.6.

2.4 *Type of Wastes.*—The system shall be designed to receive all sanitary sewage from the building served unless otherwise approved by the Administrative Authority. Laundry wastes may be discharged into a seepage pit if approved by the Administrative Authority. Drainage from basement floors, footings or roofs shall not enter the individual sewage disposal system but may be discharged to a suitably located dry well. Industrial wastes shall not be discharged into individual sewage disposal systems without special approval of the Administrative Authority.

2.5 *Limitations.*—When the volume of flow and other factors controlling the disposal area for a single installation are such that the total length of distribution lines will be greater than 2,400 feet or the total percolating area of seepage pits will be more than 3,600 square feet, a sewage treatment plant approved by the State Department of Health pursuant to law shall be provided.

2.6 *Alternate Design.*—Where a system as prescribed in Section 2.3 cannot be expected to function satisfactorily, and where an alternate design, meeting the conditions established in Section 3.2 and substantially complying with the Standards promulgated herein is proposed, such design may be approved by the Administrative Authority.

2.7 *Drainage.*—The individual disposal system shall be located in an area where no surface or subsurface (ground) water will accumulate. Provisions shall be made to minimize the flow of surface water over the area.

2.8 *Grading.*—Individual sewage disposal systems shall not be installed until all rough grading of the premises adjacent to the site of the sewage disposal installation has been completed in a manner that will permit proper functioning of the sewage disposal system to be installed.

2.9 *Backfilling.*—Backfill shall be earth similar to that found at the site and free of large stones, broken masonry, stumps or other waste construction material. Machinery used for the purpose of backfilling shall not be allowed within five feet of any part of the individual sewage disposal system.

2.10 *Individual Service.*—The use of an individual sewage disposal system by more than one property, dwelling, commercial unit or other premises is prohibited unless such property, dwelling, commercial unit or other premises is constructed, designed and located in such manner that it is most impractical or impossible to construct separate individual sewage disposal systems for the same pursuant to the provisions of these Standards. Permission may be granted by the Administrative Authority for joint use of an individual sewage disposal system only if these facts are established to its satisfaction and assurance is given that only one person will be responsible for the maintenance and operation of said system.

2.11 *Discharge of Effluents.*—Individual sewage disposal systems shall not be designed, constructed or located in a manner that will permit the discharge of an effluent onto the surface of the ground or into any watercourse.

2.12 *Sanitary Sewer.*—Individual sewage disposal systems or other means of private sewage disposal shall not be approved where a sanitary sewer is available within 100 feet of a building.

2.13 *Wells.*—Sanitary sewage or the effluent from any individual sewage disposal system shall not be discharged into any abandoned well or any well constructed for the purpose of sewage disposal.

SECTION 3

LOCATION

3.1 *General.*—Location and installation of each individual sewage disposal system and every part thereof shall be such that with reasonable maintenance it will function in a satisfactory manner and will not create a nuisance or source of foulness nor discharge into any of the waters of the State. In determining a suitable location for the system, consideration shall be given to the size and shape of the lot, slope, natural and adjusted drainage, depth to ground water, potential pollution of existing and future water supplies and the possible expansion of the system.

3.2 *Distances.*—The minimum distance for location of the various component parts of the disposal system shall comply with the following table:

COMPONENT	MINIMUM DISTANCE						
	Well or Suction Line (a) Feet	Water Supply Line (Pressure) Feet	Stream (a) Feet	Dwelling Feet	Property Line Feet	Disposal Field Feet	Seepage Pits Feet
Building sewer	50	10	(b)	..	..	..	..
Septic tank	50	10	25	10	10	..	..
Distribution box ..	50	10	25	10	10	..	..
Disposal field	100(c)	10	25	15	10	..	..
Seepage pit	100(c)	10	25	20	10	..	20
Dry well	50	..	..	10	5	20	20
Cesspool (d)	150	25	50	20	15	15	15

(a) Where coarse soil formations are encountered, the distance from any water supply or stream may be increased by the Administrative Authority.

(b) 10 feet if constructed of cast iron with tight joints or 50 feet if vitrified tile or similar type piping is used.

(c) This distance may be reduced to a minimum of 50 feet when the well is provided with an outside water-tight casing to a depth of 50 feet or more, or said casing extends to and is sealed into an impervious stratum separating the water-bearing stratum from the layer of soil used for sewage disposal.

(d) To be used only with special approval of the Administrative Authority.

3.3 *Soil.*—The disposal area shall be located and constructed in soil having adequate permeability, as determined in accordance with the provisions of Section 9. The soil shall also provide proper support for each component of the system. In cases where fill becomes necessary, such fill shall be compacted or allowed to settle to the satisfaction of the Administrative Authority.

3.4 *Flooding.*—No part of the sewage disposal system shall be constructed in ground subject to surface flooding or where ground water may interfere with satisfactory percolation of sewage.

3.5 *Area Reserved for Sewage Disposal.*—The area to be used for sewage disposal shall be selected and maintained so that it is free from encroachments by driveways, accessory buildings, additions to the main building, and trees or shrubbery whose roots may cause clogging of any part of the system.

3.6 *Drainage.*—The ground surface over and adjacent to disposal areas shall have sufficient slope to prevent the accumulation of surface or subsurface water.

SECTION 4

BUILDING SEWER

4.1 *Size.*—The building sewer shall be of such size to serve the connected fixtures as required by the Administrative Authority's plumbing code but in no case less than four inches.

4.2 *Material.*—Building sewers shall be constructed of cast iron, vitrified tile, cement, asbestos cement, bituminous pressed fiber or of a type approved in writing by the Administrative Authority, provided cast iron shall be used where the building sewer will be located under driveways.

4.3 *Joints.*—All pipe joints in the building sewer or any other part of the system not part of the disposal area shall be made water-tight and protected against damage by roots.

4.4 *Foundations.*—The building sewer shall be laid on a firm foundation satisfactory to the Administrative Authority.

4.5 *Grade.*—The building sewer shall have a minimum grade of not less than ¼ inch per foot unless otherwise authorized by the Administrative Authority.

4.6 *Alignment and Grade.*—The building sewer shall be laid in a continuous grade and as nearly as possible in a straight line. Drop manholes may be installed if found necessary. Horizontal bends, where required, shall not be greater than 45°.

4.7 *Ventilation.*—The building sewer shall be ventilated through the vent stack or main vent, and no trap shall be installed in the building sewer.

4.8 *Depth.*—The depth of the invert of the building sewer shall be determined by the elevation of the disposal area.

4.9 *Grease Traps.*—The use of grease traps shall be limited to installations from which large quantities of grease can be expected to be discharged and there is reasonable assurance that they will be cleaned frequently. They shall be installed in a separate line serving that part of the plumbing system into which the grease will be discharged. Traps so installed shall be located and constructed in a manner that will reduce the temperature of sewage to permit congealing or separation of grease. They shall also be located and constructed in a manner that will permit easy access for cleaning.

SECTION 5

SEPTIC TANKS

5.1 *Capacities.*—Septic tanks shall have the following minimum capacities:

(a) When serving single family dwelling units having up to six bedrooms they shall have capacities as shown below. Expansion attics shall be considered as additional bedrooms.

NUMBER OF BEDROOMS	Liquid Capacity of Tank	RECOMMENDED INSIDE DIMENSIONS			
		Length	Width	Liquid Depth	Total Depth
	Gallons	Ft. In.	Ft. In.	Ft. In.	Ft. In.
1	500	6-0	3-0	4-0	5-0
2	600	7-0	3-0	4-0	5-0
3	750	7-6	3-6	4-0	5-0
4	850	7-9	3-9	4-0	5-0
5	900	8-0	3-6	4-4	5-6
6	1,000	8-0	4-0	4-4	5-6

(b) When serving installations other than single family dwellings, capacities shall be 1½ times (150%) the daily flow determined from Section 2.2 or 1½ times (150%) the estimated flow approved by the Administrative Authority up to flows of 2,000 g/d, but in no case shall the capacity be less than 500 gallons. Septic tank volumes for flows between 2,000 g/d and 6,000 g/d may be equal to $2{,}250 + .375\ Q$ where Q is equal to the flow in gallons per day. Capacity of septic tanks for flows over 6,000 g/d shall be at least ¾ (75%) of the daily flow.

5.2 *Garbage Disposal.*—Where domestic garbage grinder units are installed or contemplated the liquid capacity of the septic tank, exclusive of air space, shall be at least 50 per cent greater than the requirements of Section 5.1.

5.3 *Multiple Compartments.*—Where multiple compartment tanks are used, the following shall be required:

(a) The total capacity of multiple compartment tanks shall not be less than 750 gallons. The first compartment shall have a liquid capacity of two-thirds (⅔) the required total tank capacity as determined from Section 5.1.

(b) Not more than two compartments shall be provided in tanks having liquid capacities of from 750 gallons to 1,200 gallons.

(c) Tanks having liquid capacities of over 1,200 gallons may be provided with more than two compartments.

5.4 *Construction.* (a) Septic tanks shall be water-tight and constructed of sound and durable materials not subject to excessive corrosion, decay, frost damage or to cracking or buckling due to settlement or backfilling. Covers shall be designed and constructed so as not to be damaged by any load which may be placed on them. Septic tanks constructed of metal or any other material which may be floated or shifted by water or ground cave-in shall be filled with water immediately after being set in their proper position.

(b) Poured-in-place concrete tanks shall not be less than six inches in thickness.

(c) The base of sectional prefabricated or block constructed tanks shall be cast in one piece and of sufficient size to extend beyond the outer side of the side and end walls of the tank. Such tanks shall not be placed or constructed until 48 hours after the base has been poured. The inside and outside walls of cinder or concrete block tanks shall be waterproofed in a manner acceptable to the Administrative Authority.

5.5 *Foundations.*—Septic tanks shall be constructed on a foundation satisfactory to the Administrative Authority.

5.6 *Materials.*—Septic tanks may be constructed of the following:

(a) Poured-in-place concrete.
(b) Precast reinforced concrete.
(c) Concrete block or equal.
(d) Cinder block or equal.
(e) Prefabricated metal.
(f) Material approved by the Administrative Authority.

Prefabricated metal tanks shall conform to the Commercial Standards 177-51 of the U. S. Department of Commerce.

5.7 *Ventilation.*—Ventilation shall be provided through the building sewer as required in section 4.7.

5.8 *Length.*—Rectangular tanks shall have an inside length of at least twice the inside width. The inside length shall not be less than six feet. All flow shall be directed lengthwise.

5.9 *Diameter of Circular Tanks.*—Circular tanks shall have an inside diameter of not less than 52 inches.

5.10 *Inlets and Outlets.*—Inlet and outlet connections of each tank or compartment shall be arranged so as to obtain effective retention of scum and sludge. Inlet baffles are not required but when provided shall be a pipe tee, not less than four inches in diameter with the bottom opening extending at least six inches below the surface of the liquid, or as required by Commercial Standard 177-51 for metal tanks. The invert elevation of the inlet shall be not less than one inch above the invert elevation of the tank outlet or the outlet of the first compartment. The inverts of the inlets and outlets of subsequent compartments may be at the same level.

Outlet connections of the tank and of each compartment thereof, shall be provided with a tee not less than four inches in diameter or a durable baffle equivalent in size. They shall be permanently fastened in place with the bottom opening extending at least twelve inches below the liquid level or as required by Commercial Standard 177-51 for metal tanks. Inlet tees or baffles where used and outlet tees or baffles shall extend to not less than one inch below the inside top of the tank. The top of all tees or baffles shall be extended to comply with Section 5.12 and in no case shall be less than eight inches above the invert of the outlet.

5.11 *Multiple Outlets.*—Where the inside width of the septic tank exceeds five feet, multiple outlets constructed in the same manner as provided in Section 5.10 shall be installed as follows:

Inside Width of Tank	*Number of Outlets*
5 to 7 feet	2
8 to 12 feet	3

Any change in the type of outlets shall be as approved by the Administrative Authority.

5.12 *Scum Storage.*—The space between the liquid surface and the top of the scum retaining device on the outlet shall be not less than 15% of the total required liquid capacity.

5.13 *Access Openings.*—Each compartment shall be provided with an access opening. In single compartment tanks, the access opening shall be located over the inlet. In multiple compartment tanks, access openings shall be located over each inlet and outlet. Access openings shall be at least 16 inches square or 16 inches in diameter and shall be constructed in a manner that will prevent the entrance of surface water. When the top of the septic tank is more than 18 inches below finished grade the access openings shall be extended to between 18 inches and 12 inches below finished grade.

5.14 *Backfill.*—Backfill around septic tanks shall be made in thin layers thoroughly tamped in a manner that will not produce undue strain on the tank. Settlement of backfill may be done with the use of water, provided the material is thoroughly wetted from the bottom upwards and the tank is first filled with water to prevent floating.

SECTION 6

DOSING TANKS

6.1 *General.*—Dosing tanks shall be provided where there are over 600 lineal feet of distribution lines.

6.2 *Capacity.*—Dosing tanks shall have sufficient capacity to distribute sewage equally to all parts of the distribution system at 2 to 3 hour intervals. Sufficient capacity shall be considered as equivalent to 75% of the interior volume of the distribution lines. Where 4 inch distribution lines are used, a capacity of ½ gallon per lineal feet shall be provided.

6.3 *Siphons.*—Siphons shall be automatic and shall be of an alternating type when the total length of distribution lines is over 1,200 feet. Alternating siphons shall discharge to separate disposal areas.

6.4 *Construction.*—Dosing tank construction shall conform to the provisions of Section 5.4.

6.5 *Foundations.*—Dosing tank foundations shall conform to the provisions of Section 5.5.

6.6 *Materials.*—Materials used shall be in conformity with the provisions of Section 5.6.

6.7 *Ventilation.*—Dosing tanks shall be constructed in a manner that will permit venting the disposal area.

6.8 *Inlets and Outlets.*—Inlets shall be above high water elevation and outlets shall conform with the requirements of the manufacturer of the siphon.

6.9 *Access Openings.*—Each dosing tank or compartment thereof shall be provided with an access opening located so as to facilitate repair or adjustment of the siphon. Such opening shall conform to the provisions of Section 5.13 except that the opening or openings shall be over the siphon or siphons.

6.10 *Pump in Lieu of Dosing Tank.*—A wet well and a pump or ejector may be substituted for a dosing tank provided the other requirements of this section are complied with and the pump or ejector is designed to handle sewage.

SECTION 7

DISTRIBUTION BOX

7.1 *General.*—A distribution box shall be installed between septic tanks and disposal fields or seepage pits. If only one seepage pit is used, no distribution box is required.

7.2 *Connecting Pipe.*—The pipe connecting the septic tank and distribution box shall conform to the provisions of Section 4.

7.3 *Construction.*—Distribution boxes shall be water-tight and constructed of concrete or other durable material. They shall be designed to accommodate the necessary distribution lines leading therefrom and to provide equal distribution to such lines by means of baffles or other acceptable methods.

7.4 *Access.*—Distribution boxes shall be provided with a means of access. In the case of small boxes, this may be a removable top. If the top of the distribution box is more than 18 inches below finished grade, the access opening shall be extended to between 18 inches and 12 inches below finished grade.

7.5 *Distribution Lines.*—Each distribution line shall be connected separately to the distribution box. The inverts of all outlet lines shall be rigidly set at the same level. The invert of the inlet shall be at least one inch above the invert of the outlet.

SECTION 8

DISPOSAL AREAS

8.1 *General.*—The disposal area to be provided shall be determined by the results of percolation tests performed in accordance with the provisions of Section 9, type of soil available, drainage conditions or by other related data that may be required by the Administrative Authority.

8.2 *Type of Disposal Area Permitted.*—The disposal area shall consist of a disposal field constructed in accordance with Section 10 or seepage pit constructed in accordance with Section 13, or a combination thereof.

8.3 *Location.*—Disposal area shall be located as designated in Section 3.

8.4 *Summer Use.*—The percolating area may be 75% of the areas required by Sections 11, 12 and 13, if the individual sewage disposal system is to be used only from May 15 to October 15 and the Administrative Authority so approves.

SECTION 9

DETERMINATION OF SOIL CHARACTERISTICS

9.1 *General.*—The quality of soil available as percolation media shall be determined from the results of tests as herein prescribed, type of underlying soil, drainage conditions or by other related data that may be required by the Administrative Authority.

9.2 *Percolation Tests and Reports.*

(a) At least one percolation test shall be performed at the site of each disposal area. More than one test will be required where the soil structure may vary or large disposal areas

are required. Preliminary tests for large tracts involving more than one disposal system may be made in the amount of one per acre or as prescribed by the Administrative Authority.

(b) Percolation tests shall be performed as prescribed in this Section by a licensed professional engineer, health officer, sanitarian or other person who may be approved by the Administrative Authority to perform such tests.

(c) Percolation tests shall not be made in test holes which have been allowed to remain open to the atmosphere for periods over three days or in frozen ground. Tests shall not be made in filled ground unless the soil has been compacted or allowed to settle to the satisfaction of the Administrative Authority. Where a fissured soil formation is encountered, tests shall be made under the direction of the Administrative Authority.

(d) Percolation tests shall be performed in accordance with the following procedure:

Step 1. Prepare a test hole having horizontal dimensions of 8 inches to 12 inches terminating in the soil at the depth intended to be used for disposal purposes. Establish a fixed point at the top of the hole from which all measurements shall be taken. Fill the hole with water and allow all of this water to drain into the soil.

Step 2. Fill the hole to a depth of approximately seven inches. At a five to thirty minute time interval, depending on the rate of fall, record the drop in water level in inches during the time interval selected. Immediately refill the hole to the original depth of approximately seven inches, and repeat the test using the same time interval and method. Repeat this procedure until the distance that the water has fallen in the time interval selected becomes approximately equal.

Steps 3 and 4 shall follow immediately.

Step 3. Remove any silt accumulation or debris remaining in the hole.

Step 4. Refill the hole to a depth of seven inches as quickly as possible and record the time required for only six inches of the water to seep away. This time divided by six will be the percolation rate in minutes per inch.

The time required for the percolation test may be shortened by having the holes filled with water several times during the day previous to testing. The testing procedure may then start at Step 2, after any accumulated silt has been removed. If a reasonable number of tests as outlined in Step 2 do not indicate the soil to be sufficiently saturated, additional soaking of the soil may be necessary and Step 2 repeated. In any event, the percolation test shall be performed as outlined in Step 4.

(e) Reports shall be furnished to the Administrative Authority indicating the results of each percolation test in minutes per inch, the date of the test, effect of recent rain or lack of rain, the apparent moisture of the soil prior to the test, the depth to ground water when encountered, number of preliminary tests made to determine apparent saturation, the type or types of soil encountered, together with the thickness of each layer and all other factors affecting percolation test results.

9.3 *Sub-soil and Ground Water Determination.*

(a) The Administrative Authority may require additional information relative to soil structure and ground water elevations adjacent to or below the proposed disposal area.

(b) The number of test borings or pits shall be as specified by the Administrative Authority but not numbering less than one test boring or pit for each individual sewage disposal system proposed except for preliminary consideration of tracts wherein a number of such disposal systems are proposed, in which case at least one test shall be made for each five acres or fraction thereof.

(c) The depth of test borings or pits shall be 10 feet below the bottom of the proposed seepage pit or 15 feet below the bottom of the proposed disposal field or to solid rock when encountered within the foregoing depth requirements.

(d) Reports of the type, nature and depth of the soils found and the depth to ground water shall be furnished to the Administrative Authority. Samples of soil removed shall be carefully preserved when required by the Administrative Authority.

SECTION 10

MINIMUM CONSTRUCTION REQUIREMENTS FOR DISPOSAL FIELDS

10.1 *Disposal Fields.*—Disposal fields may consist of disposal trenches as described in Section 11, or a disposal bed as described in Section 12.

10.2 *Standard for Disposal Field Construction.*—Disposal trenches shall be constructed in accordance with Section 11 and disposal beds in accordance with Section 12.

10.3 *Filter Material.*—Filter material shall cover the distribution lines and extend the full width of the trench or bed, shall not be less than six inches deep beneath the bottom of the distribution line, and shall extend at least two inches above the top of the line and as further required in Section 11.4. The filter material shall be washed gravel, crushed stone, slag, or clean bank-run gravel ranging in size from ½ to 2½ inches, free of fines, dust, ashes or clay. The filter material shall be covered by untreated paper or by a 2-inch layer of salt hay or straw as the laying of the distribution lines progress. Use of waterproof paper for this purpose is prohibited.

10.4 *Distribution Lines.*—Distribution lines shall be constructed true to line and grade with open joints or perforations, except that at least one tight joint at each bend or other fitting shall be provided to prevent slippage. Bell-and-spigot pipe shall be laid with ½ inch open joints at two foot intervals and the bottom of each joint shall contain a minimum of cement mortar to maintain an even flow line. Agricultural tile shall be laid on grade boards securely nailed to stakes driven into the undisturbed earth forming the trench bottom. Openings between joints shall be ⅛ inch to ½ inch with the upper half of the joint covered with asphalt-treated paper not less than three inches wide. Perforated tile, bituminized-fibre or asbestos cement or equally adequate pipe may be used provided a sufficient number of clear openings extending through the entire thickness of the pipe are available to permit complete distribution of sewage into the disposal area. Any section of pipe laid with tight joints, except fittings as required above, shall not be considered in determining the percolating area.

10.5 *Depth.*—Distribution lines shall not be laid at depths of greater than 24 inches below finished grade unless authorized by the Administrative Authority. Where more suitable soil is located at 2 to 5 feet below the ground surface the bottom of the trench may be deepened at 6 to 10 foot intervals into the aforesaid soil provided said excavations are filled with filter material as provided in Section 10.3. The top of distribution lines shall not be less than 9 inches below finished ground surface.

10.6 *Excavation.*—Excavation for disposal beds or trenches may be made by machinery provided that the adjacent soil will not be compacted and the provisions of Section 2.8 are met. No excavating machinery shall be permitted in the excavation. When an excavation is carried below the required depth, it shall be brought up to the proper elevation with filter material as specified in Section 10.3.

10.7 *Water Table.*—Disposal fields shall not be constructed in areas, where the ground water may be less than four feet below the bottom of the trench or bed unless experience has

indicated that disposal fields being of similar nature and size and having equal volumes of sewage have functioned satisfactorily for a reasonable period of time.

10.8 *Fill.*—When disposal fields are built up by fill to a depth of two feet or more, the area of such fill shall extend at least twenty feet beyond the limits of the disposal field and the fill shall be of earth having a percolation value at least equal to that of the ground in which the disposal field is constructed.

10.9 *Impervious Formations.*—Disposal fields shall not be constructed over impervious ground formations where such formations are less than ten feet below the finished ground surface unless experience has indicated that disposal fields in the immediate area, being of similar nature and size and handling equal volumes of sewage, have functioned satisfactorily for a reasonable period of time.

10.10 *Sloping Ground.*—When distribution lines must be laid at different elevations in order to meet the slope requirements of Section 11.5, the change in elevations shall be accomplished by use of distribution boxes as required by Section 7 or by a vertical pipe and fittings of the same size as the distribution piping, provided the upper fitting is a "T" branch, with a plugged top terminating six to twelve inches below finished ground surface and the lower fitting is a 90° bend. Tight joints shall be used in all such fittings.

10.11 *Backfill.*—Backfill over disposal trenches or beds shall not be tamped and no grading machinery shall be permitted to pass over the area. The surface may be rolled by a hand type roller for the purpose of completing a lawn.

SECTION 11

DISPOSAL TRENCHES

11.1 *Percolating Area.*—The percolating area of disposal trenches shall be considered as the total bottom area of the disposal trench system in square feet, except that any section of trench containing pipe laid with tight joints other than fittings as required in Section 10.4 shall not be considered in determining the percolating area.

11.2 *Minimum Percolating Area (Individual Dwellings).*—The minimum required percolating area per bedroom shall be determined from the following table provided that in no event shall the total bottom trench area be less than 150 square feet for each dwelling unit.

Percolation Test Min. Per Inch	Minimum Bottom Trench Area Square Feet Per Bedroom	Percolation Test Min. Per Inch	Minimum Bottom Trench Area Square Feet Per Bedroom
2 min. or less	55	14	115
3	60	15	120
4	65	16	125
5	70	17	130
6	75	18	135
7	80	19	140
8	85	20	145
9	90	21 to 25	170
10	95	26 to 30	190
11	100	31 to 35	215
12	105	36 to 40	240
13	110	over 40	Not acceptable

11.3 *Minimum Percolating Area (Other Than Individual Dwellings).*—The percolating area shall be the same as that considered in Section 11.1. The minimum required percolating area shall be determined from the following table with the estimated daily sewage flow

determined from Section 2.2, provided that in no event shall the total bottom trench area be less than 150 square feet.

Percolation Test Min. Per Inch	Minimum Bottom Trench Area Sq. Ft. Per Gal. Per Day	Percolation Test Min. Per Inch	Minimum Bottom Trench Area Sq. Ft. Per Gal. Per Day
2 min. or less	0.39	14	0.77
3	0.43	15	0.80
4	0.46	16	0.83
5	0.49	17	0.87
6	0.52	18	0.90
7	0.55	19	0.93
8	0.58	20	0.96
9	0.61	21 to 25	1.12
10	0.64	26 to 30	1.28
11	0.67	31 to 35	1.44
12	0.71	36 to 40	1.60
13	0.74	over 40	Not acceptable

11.4 *Size and Spacing.*—Size and minimum spacing requirements of disposal trenches shall conform to the following table:

Time Required for Water to Fall One Inch (Minutes)	Maximum Width of Trench at Bottom (Inches)	Depth of Stone Under Distrib. Lines (Inches)	Min. Dist. Bet. Distrib. Lines (Feet)	Rec. Dep. of Trench to Bottom (Inches)	Percolating Area Per Ft. of Trench (Sq. Ft.)
Less than 5 min.	18	6	6.0	20 to 30	1.5
5 to 20 min.	24	8	6.0	22 to 32	2.0
20 to 40 min.	30	10	7.5	24 to 34	2.5

11.5 *Disposal Trench Construction.*—Disposal trenches shall be constructed in accordance with the following table:

Minimum lines per field	2
Maximum length per line	100 ft.
Minimum diameter of distribution lines	4 inches
Preferred slope of distribution lines	2″ to 4″ in 100 ft.
Maximum slope distribution lines	6″ in 100 ft.
Minimum width of trench bottom	18 inches
Minimum distance between distribution lines	6 ft.
Minimum percolating area per dwelling	150 sq. ft.

SECTION 12

DISPOSAL BEDS

12.1 *General.*—Disposal beds shall consist of an area in which the entire earth contents have been removed, filter material as required in Section 10.3 placed in the excavation, and distribution lines installed at a depth not greater than 24 inches below finished grade.

12.2 *Percolating Area.*—The percolating area of disposal beds shall be considered as the total bottom area in square feet.

12.3 *Minimum Percolating Area (Individual Dwellings).*—The minimum required percolating area per bedroom shall be determined from the following table provided that in no event shall the total bottom area be less than 180 square feet for each dwelling unit.

Percolation Test Min. Per Inch	Minimum Bottom Area Sq. Ft. Per Bedroom	Percolation Test Min. Per Inch	Minimum Bottom Area Sq. Ft. Per Bedroom
2 min. or less	70	14	139
3	77	15	144
4	82	16	150
5	88	17	156
6	84	18	162
7	99	19	167
8	106	20	173
9	110	21 to 25	202
10	115	26 to 30	231
11	121	31 to 35	259
12	127	36 to 40	288
13	133	over 40	Not acceptable

12.4 *Minimum Percolating Area (Other Than Individual Dwellings).*—The minimum required percolating area shall be determined from the following table with the estimated daily sewage flow determined from Section 2.2, provided that in no event shall the total bottom area be less than 180 square feet.

Percolation Test Min. Per Inch	Minimum Bottom Area Sq. Ft. Per Gal. Per Day	Percolation Test Min. Per Inch	Minimum Bottom Area Sq. Ft. Per Gal. Per Day
2 min. or less	0.47	14	0.92
3	0.51	15	0.96
4	0.55	16	1.00
5	0.58	17	1.04
6	0.62	18	1.08
7	0.66	19	1.12
8	0.70	20	1.15
9	0.74	21 to 25	1.34
10	0.77	26 to 30	1.54
11	0.81	31 to 35	1.73
12	0.85	36 to 40	1.92
13	0.89	over 40	Not acceptable

12.5 *Depth of Filtering Material.*—A minimum of 12 inches of filtering material shall be provided under the distribution lines.

12.6 *Disposal Bed Construction.*—Disposal beds shall be constructed in accordance with the following table:

Minimum lines per field	2
Maximum length per line	100 ft.
Minimum diameter of distribution lines	4 inches
Preferred slope of distribution lines	2″ to 4″ in 100 ft.
Maximum slope distribution lines	6″ in 100 ft.
Minimum distance from edge of bed to nearest distribution line	3 ft.
Minimum distance between distribution lines	4 ft.
Minimum percolating area per dwelling	180 sq. ft.

SECTION 13

SEEPAGE PITS

13.1 *General.*—Seepage pits shall be used only when preceded by a septic tank except as otherwise provided in Section 2.4. They may be permitted in lieu of or as a supplement to a disposal field where conditions warrant their use. Because of the health hazard involved in the possible pollution of underground water supplies seepage pits shall not be constructed unless extreme care is exercised in the selection of location and depth.

13.2 *Percolating Area.*—The percolating area shall be considered as the previous bottom and side areas of the excavation below the elevation of the inlet. The probable efficiency of the pit shall be judged on the basis of percolation tests performed at depths required by Section 9.

13.3 *Minimum Percolating Area (Individual Dwellings).*—The minimum required percolating area shall be determined from the following table provided that in no event shall the area be less than 110 square feet for each dwelling unit.

Percolation Test Min. Per Inch	Minimum Area Square Feet Per Bedroom	Percolation Test Min. Per Inch	Minimum Area Square Feet Per Bedroom
min. or less	44	14	87
3	48	15	90
4	51	16	94
5	55	17	98
6	58	18	101
7	62	19	104
8	66	20	108
9	69	21 to 25	126
10	72	26 to 30	144
11	75	31 to 35	162
12	79	36 to 40	180
13	83	over 40	Not acceptable

13.4 *Minimum Percolating Area (Other Than Individual Dwelling).*—The minimum required percolating area shall be determined from the following table with the estimated daily sewage flow determined from Section 2.2, provided that in no event shall the area be less than 110 square feet.

Percolation Test Min. Per Inch	Minimum Area Sq. Ft. Per Gal. Per Day	Percolation Test Min. Per Inch	Minimum Area Sq. Ft. Per Gal. Per Day
2 min. or less	0.29	14	0.58
3	0.32	15	0.60
4	0.35	16	0.62
5	0.37	17	0.65
6	0.39	18	0.68
7	0.41	19	0.70
8	0.44	20	0.72
9	0.46	21 to 25	0.84
10	0.48	26 to 30	0.96
11	0.50	31 to 35	1.08
12	0.53	36 to 40	1.20
13	0.56	over 40	Not acceptable

13.5 *Construction.*—Seepage pits shall be constructed within an excavation affording adequate working space and shall be constructed of stone, brick, cinder or concrete block, or similar material laid dry with open joints where the permeable strata has been penetrated, except that if the seepage pit is not of circular construction or if the surrounding ground is subject to cave-in, all horizontal joints shall be mortared in such a manner as to prevent structural failure. All joints in impervious strata, and in all cases above the inlet shall be made water-tight.

13.6 *Backfill.*—The space between the excavation and seepage pit wall shall be backfilled with at least 3 inches of coarse gravel or filter material prescribed in Section 10.3. Where cinder or concrete blocks are laid with core openings exposed, the space between the excavation and seepage pit wall shall be backfilled with at least 6 inches of 2½ inch crushed stone or similar material.

Backfill above the permeable strata and inlet shall be thoroughly compacted by hand or mechanical tamping methods. The use of heavy machinery or water for this purpose is prohibited.

13.7 *Covers.*—If the upper layers of masonry are not drawn in to provide a smaller diameter opening than the diameter of the pit, a reinforced concrete cover shall be provided. Access openings as specified in Section 5.13 shall be provided.

13.8 *Bottom.*—The bottom of the pit shall be filled with coarse gravel to a depth of one foot unless the bottom is in a gravel or sand formation. The bottom shall not be less than two feet above the maximum ground water elevation unless special permission is granted by the Administrative Authority.

13.9 *Impervious Formations.*—The bottom of any seepage pit shall be at least eight feet above any impervious formation unless experience has indicated that seepage pits in the immediate area being of similar nature and size and handling equal volumes of sewage, have functioned satisfactorily for a reasonable period of time.

SECTION 14

CESSPOOLS

14.1 *Use.*—The installation and use of cesspools for disposal of sewage is permissible only if a health hazard will not result therefrom. Special approval to make such an installation shall be obtained from the Administrative Authority.

14.2 *Construction.*—The construction of cesspools shall comply with the applicable provisions of Section 13.

14.3 *Location.*—Cesspools shall be located in accordance with the requirements established in Section 3.2.

14.4 *Minimum Capacity.*—The liquid capacity of cesspools shall be double the capacities required for septic tanks in Section 5.

14.5 *Percolating Area Required.*—In determining the percolating area, only the side wall area of that part of the excavation in pervious formation up to the elevation of the inlet shall be used. The effectiveness of the unit shall be determined by the required percolating area in Sections 13.3 and 13.4. In no case shall the capacity of the unit be less than required in Section 14.4.

SECTION 15

REQUIREMENTS FOR CERTIFICATION

15.1 *Basic Engineering Data Required.*—The application for certification for 10 or less realty improvements fronting an existing "Street," as defined in Section 2 of the Municipal Planning Enabling Act of 1953, and not involving the building of any new streets, shall be made in writing, and upon a formal application form when provided by the board and contain the following data:

(a) A sketch showing the property to be served, the location of the sewerage facilities proposed, the location and depth of the percolation test holes, the location of any source of potable water supply and any drainage right-of-way, as defined in Section 2 of the Municipal Planning Enabling Act of 1953, on the same or adjoining premises.

(b) The number of bedrooms, including expansion attics for single family dwellings or the estimated sewage flow for buildings other than single family dwellings.

(c) A description of the type of sewerage facilities proposed.

(d) Results of the percolation tests.

(e) Results of subsoil and ground water determinations if required by the board of health.

15.2 *Additional Engineering Data Required.*—For realty improvements not falling within the classification covered in 15.1 the following additional engineering data shall be submitted:

1. A plan of the realty improvement showing the following:

(a) Lots with their dimensions.

(b) Contours of original grades.

(c) Proposed elevations of the final grading shown at lot corners or any contemplated change of slope.

(d) Drainage right-of-way and any contemplated diversion thereof affecting the realty improvement.

(e) Storm sewers.

(f) Location and depth of all private and public water supplies within 500 feet of the realty improvement if available.

(g) Location of percolation test holes.

(h) Location of subsoil test holes, if required by the board.

2. Results of subsoil and ground water determinations.

15.3 *Fifty or More Realty Improvements.*—Copies of all applications and the accompanying engineering data for certifications to cover 50 or more realty improvements shall be filed with or mailed to the State Department of Health, Bureau of Public Health Engineering, Trenton, New Jersey, by the applicant on the date on which application is made to the board