THE MUNICIPAL AUTHORITY
OF THE TOWNSHIP OF ROBINSON

COUNTY OF ALLEGHENY,
COMMONWEALTH OF PENNSYLVANIA

RULES AND REGULATIONS
GOVERNING WATER AND SEWER SERVICE

January 1980

(as amended through October 30, 2022)

THE MUNICIPAL AUTHORITY OF THE TOWNSHIP OF ROBINSON
County of Allegheny, Commonwealth of Pennsylvania

RULES AND REGULATIONS GOVERNING WATER AND SEWER SERVICE

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THE MUNICIPAL AUTHORITY OF THE TOWNSHIP OF ROBINSON COUNTY OF ALLEGHENY, COMMONWEALTH OF PENNSYLVANIA

RULES AND REGULATIONS GOVERNING WATER AND SEWER SERVICE

SECTION 1 – DEFINITIONS

1. AUTHORITY: The term "Authority," whenever the same appears herein, shall mean The Municipal Authority of the Township of Robinson, a body corporate and politic organized and existing under the laws of the Commonwealth of Pennsylvania.

2. BIOCHEMICAL OXYGEN DEMAND: The term "B.O.D." (denoting biochemical oxygen demand), as used herein, shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five (5) days at 20 degrees C, expressed in parts per million by weight. The B.O.D. shall be determined by one of the acceptable methods described in the latest edition of Standard Methods for the Examination of Water and Wastewater, published by the American Public Health Association.

3. BUILDING DRAIN: The term "Building Drain," as used herein, shall mean that part of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste, and other drainage pipes inside the walls of the building and conveys it to the building sewer, which begins at a point five (5) feet outside the inner face of the building wall.

4. BUILDING – OCCUPIED: The term "Occupied Building" shall mean any structure erected and intended for continuous or periodic habitation, occupancy, or use by human beings or animals, and from which structure water is consumed or sanitary sewage and industrial wastes, or either thereof, is or may be discharged.

5. BUILDING SEWER: See SEWER – TYPES.

6. CHARGES FOR SERVICE – MISCELLANEOUS BASES: The term

"Miscellaneous Bases" shall mean the miscellaneous bases the Authority may use for determination of water and/or sewage service charges.

7. CHARGES FOR SERVICE – INACTIVE: The term "Inactive Charges for Service" shall mean a minimum charge, as set forth in the Schedule of Rates, made against all vacant premises that are provided with a water and/or sewer line service connection; and, further, minimum charges made against all premises that abut on sewerage facilities of the Authority, whether or not such premises are connected to the utility systems, and whether vacant or occupied; all as applicable for the available services, said premises being feasible to be connected to said facilities; all such charges against the properties to be made a lien thereon, to be liened and collected against the property in the name of the owner, reputed owner, occupier, mortgagee, or anyone beneficially interested therein, as claims are liened and collected under the Municipal Claims Law of the Commonwealth of Pennsylvania. The principle of Multiple Billing shall apply also in cases if inactive service where multiple premises are involved, as hereinafter outlined.

8. CHARGES FOR SERVICE – MULTIPLE BILLING: The term "Multiple Billing" shall mean the basis for computing charges for water and/or sewage service in all cases where more than one premises is served through one water meter or a water meter installation (a meter installation being defined as an installation that includes two or more meters placed at one or more locations for the purpose of serving one or more premises in a building or related group of buildings, in a facility or related group of facilities, in an area or related group of areas, and in such other properties; more than one meter generally being provided to allow flexibility of operation, to furnish adequate capacity, to permit more accurate measurement of water, due to the physical layout of the property, and for such other reasons); and the basis for charges for water and/or sewage service in all cases where more than one premises is served through a single service connection or building sewer line; the procedure for such billing being outlined in the Rules and Regulations and summarized as follows, the general principles of Multiple Billing to apply also when charges are subject to a unit charge basis.

   a. Number of Premises: The potential number of premises in any building or group of buildings, and the charges therefore, are subject to determination by the Authority prior to original approval of the Authority to furnish water and/or sewage services, and is subject to determination subsequent to any alterations, additions, or changes in

the building or group of buildings. The customer or customers, or Sewage Agency, shall notify the Authority promptly relative to any changes in the number of premises, the number at any time always being subject to determination by the Authority.

b. Different Types of Property Use: This regulation shall apply regardless of whether a business may be owned by a customer who is also receiving household water and/or sewage service through the same building sewer lines, or the two or more premises are located in one building or in different buildings, the ownership of the property or business not being significant.

c. Billing of Tenant: Should the owner desire that the Authority conduct business directly with the tenant of each premises, he must first provide physical means of billing and collecting the service charges therefore.

d. Water and/or Sewage Service Charges Based on Flat and Fixture Rates: The total charge for water and/or sewage service based on flat rates shall be equal to the average Flat Rate charge for each premises, multiplied by the number of premises. The computation of the total charge for sewage service based on fixture billing shall involve the determination of the average number of fixtures for a premises, based on analysis of all related individual premises and the computation of the charge for this average number of fixtures, and the multiplication thereof by the total number of premises.

e. Water and/or Sewage Service Charges Based on Water Consumption: The total charges based on water consumption shall be determined as follows:

The average use of water for each billing period for each premises shall be equal to the total number of gallons registered by the water meter or meter installation divided by the number of premises. The average use of water for each billing period for each premises, as thus determined, shall provide the basis for billing.

The total charge for water and/or sewage service shall be equal to the average charge for each premises multiplied by the

number of premises, determined as just set forth, and the total charge shall be submitted to the customer or customers or Water or Sewage Agency as the proper charge for water and/or sewage service furnished to the type of building and/or buildings included hereunder.

The amount of the charge for water and/or sewage service for each premises shall be computed on the basis of a 5/8-inch meter installation, as set forth in the Rate Schedule Governing Water Service.

The minimum charge and allowance in gallons for 5/8-inch meter is to apply, and the total charge for each premises is to be the minimum charge plus charges for all water in excess of the allowance in gallons in accordance with the Rate Schedule; the excess to be the average use in gallons, determined as previously set forth, minus the quantity allowed for the size of the meter. If it is determined that meters large than 5/8-inch in size would be necessary if each premises were provided with individual service, the charges for each premises will be based on the larger meters.

f. Water and/or Sewage Service Charges – Miscellaneous Bases: The Authority may use miscellaneous bases for determination of water and/or sewage service charges, such other methods to be subject, essentially, to the general principles just outlined and to the Schedule of Rates.

9. CHARGES FOR SERVICE – NORMAL: The term "Normal Charges for Service" shall mean the charges for water and/or sewage service based on the published Schedule of Rates of the Authority and be subject to the various bases for billing as set forth herein and/or as set forth in the published Schedule of Rates.

10. CHLORINE REQUIREMENT: The term "Chlorine Requirement" shall mean the amount of chlorine, in parts per million by weight, which must be added to sewage to produce a specified residual chlorine content or to meet the requirements of some other objective, in accordance with procedures set forth in "Standard Methods for the Examination of Water, Sewage and Industrial Wastes," published by the American Public Health Association.

11. COMBINED SEWER: See SEWER – TYPES.

12. COMMERCIAL SERVICE: See SERVICE – TYPES.

13. CUSTOMER: The term "Customer," as used herein, shall mean the owner or tenant, as later defined, contracting for and obtaining water and/or sewage service for one or more premises, and the term "Customers" shall mean all contracting for and using service.

14. DATE OF PRESENTATION: The term "Date of Presentation" shall mean the date on which a bill or notice is mailed, as evidenced by the United States Office postmark.

15. DEPARTMENT OF ENVIRONMENTAL RESOURCES: The term "Department of Environmental Resources" shall mean the sewage enforcement agency of the Commonwealth of Pennsylvania or the agency that has sewage enforcement powers within the jurisdiction of the Commonwealth of Pennsylvania, by whatever name known.

16. DOMESTIC SERVICE: See SERVICE – TYPES.

16.a. EXECUTIVE DIRECTOR: The term "Executive Director" shall mean the Director of administration and day-to-day operations of the Authority and his or her designee.

17. GARBAGE: The term "Garbage," as used herein, shall mean solid wastes from the preparation, cooking and dispensing of food and from the handling, storage and sale of produce.

18. GARBAGE – PROPERLY SHREDDED: The term "Garbage – Properly Shredded," as used herein, shall mean the wastes from the preparation, cooking and dispensing of food that has been shredded to such degree that all particles will be carried freely in suspension under the flow conditions normally prevailing in public sewers, with no particle greater than ½ inch in any dimension.

19. INDUSTRIAL SERVICE: See SERVICE – TYPES.

20. INDUSTRIAL WASTES: The term "Industrial Wastes," as used herein, shall mean any liquid, gaseous or water-borne wastes from Industrial

processes or commercial establishments, as distinct from sanitary sewage.

21. INDUSTRIAL WASTES – ABNORMAL: The term "Abnormal Industrial Wastes" shall mean any industrial waste having a suspended solids content or B.O.D. appreciably in excess of that normally found in municipal sewage. For the purpose of this regulation, any industrial waste containing more than 350 parts per million of suspended solids, or having a B.O.D. in excess of 300 parts per million, shall be considered an abnormal industrial waste, regardless of whether or not it contains other substances in concentrations differing appreciably from those normally found in municipal sewage.

22. INTERCEPTING SANITARY SEWER: See SEWER – TYPES.

23. LATERAL SANITARY SEWER: See SEWER – TYPES.

24. MAIN SANITARY SEWER: See SEWER – TYPES.

25. MUNICIPALITY: The term "Municipality" shall mean the Township of Robinson.

26. MUNICIPAL OR PUBLIC SERVICE: See SERVICE – TYPES.

27. NATURAL OUTLET: The term "Natural Outlet," as used herein, shall mean any outlet into a watercourse, pond, ditch, lake or other body of surface or ground water.

28. OWNER: The term "Owner," wherever the same appears herein, shall mean the person, firm or corporation representing itself to be the owner, whether legal or equitable, sole or partial, in any premises which is or is about to be furnished water and/or sewage service by the Authority, and the term "Owners" shall mean all so interested.

29. PARTS PER MILLION: The term "Parts Per Million" shall mean a weight-to-weight ratio; the parts per million value multiplied by the factor 8.345 shall be equivalent to pounds per million gallons of water.

30. pH: The term "pH," as used herein, shall mean the logarithm (Base 10) of the reciprocal of the weight of hydrogen ions in grams per liter of solution. The pH shall be determined by one of the acceptable methods described in the latest edition of Standard Methods for the Examination of Water and

Wastewater, published by the American Public Health Association.

31. PREMISES: The term "Premises," as used herein, shall mean the property or area, including the improvements thereon, to which water and/or sewage service is or will be furnished, and, as used herein, shall be taken to further designate:

a. A building under one roof, owned or leased by one customer and occupied as one residence or one place of business; or

b. A group or combination of buildings owned by one customer, in one common enclosure, occupied by one family or one organization, corporation or firm as a residence of place of business or for manufacturing or industrial purposes, or as a hotel, hospital, church, parochial school, or similar institution, except as otherwise noted herein; or

c. The one side of a double house having a solid vertical partition wall; or

d. Each side or part of a house or building occupied by one family, even though the closet and/or other fixtures be used in common; or

e. Each apartment, office or suite of offices and/or place of business located in a building or group of buildings, even though such building in a group is interconnected by a tunnel or passageway, covered areaway or patio, or by some similar means or structure; or

f. A public building devoted entirely to public use, such as a town hall, schoolhouse, fire engine house; or

g. A single lot or park or playground; or

h. Each house in a row of houses; or

i. Each dwelling unit in a house or building, a swelling unit being defined as a building or portion thereof, with exclusive culinary facilities designed for occupancy and used by one person or by one family (household); or

j. Each individual and separate place of business and/or occupancy located in one building or group of buildings commonly designated as shopping centers, supermarket areas, and by such other terms; or

k. Each dwelling unit in a public housing development owned and operated by the United States of America, a municipal subdivision of the Commonwealth of Pennsylvania or an agency or instrumentality of the United States or Commonwealth of Pennsylvania; by a philanthropic foundation or organization or such similar body or organization; or operated under private ownership; or

l. Each trailer shall constitute premises.

Each premises shall be served through a separate water and/or sewer service line and through a separate water meter, except where physical conditions prevent the installation of separate service facilities as determined by the Authority.

The term "Physical Conditions," as used elsewhere herein, shall apply only to such situations as relate to the plumbing layout in the premises. All building sewer service lines and water service lines, as defined herein, shall be installed in accordance with all requirements relative thereto, and shall be connected only to main lines abutting on the front of the property and owned by the Authority, except as otherwise provided, such building sewer service lines and water service lines to extend from the street in a straight line, at right angles to the street, to the premises where possible. All proposed installations must be approved by the Authority prior to installation.

The charges for water and/or sewage service in all cases where more than one premises is served through one service connection or building sewer line shall be determined as set forth in detail in these Rules and Regulations and Schedule of Rates.

32. PRESENTATION – DATE OF: See DATE OF PRESENTATION.

33. PUBLIC SEWER: See SEWER – TYPES.

34. RATE SCHEDULE SHEET: The Term "Rate Schedule Sheet" shall mean an individual sheet of Rate Schedules and Regulations of the Water and Sewage Agency.

35. RATES – SCHEDULE OF: The term "Schedule of Rates" shall mean the entire body of effective rates, rentals, charges and regulations, as published and made a part hereof.

36. SANITARY SEWER: See SEWER – TYPES.

37. SANITARY SEWERAGE SYSTEMS: The term "Sanitary Sewerage Systems" shall mean all separate sanitary sewers, all sewage pumping stations, all sewage treatment works and other facilities provided for the collection, transportation and treatment of sanitary sewage and industrial wastes, with their appurtenances and any additions, extensions or improvements thereto that may be made by the Authority and/or others.

38. SERVICE CHARGE: The term "Service Charge" shall mean the basic assessment levied on all users of the water system and public sewer system when wastes do not exceed in strength the concentration values established as representative of normal sewage.

39. SERVICE LINES – SEWER: See SEWER – TYPES – BUILDING SEWER.

40. SERVICE – TYPES:

    a. Commercial Service: Provision of water and/or sewage service for premises where the customer is engaged in trade and/or commerce.

    b. Domestic or Residential Service: Provision of water and/or sewage service for residential premises.

    c. Flat Rate Service: Provision of water and/or sewer service to premises in unmeasured quantities at a fixed periodic charge for an unmetered service.

    d. Industrial Service: Provision of water and/or sewage service for premises where the customer is engaged in manufacturing or process industries.

    e. Metered Service: Provision of water and/or sewer service to premises in measured quantities.

f. Municipal or Public Service: Provision of water and/or sewage service to a municipal subdivision of the Commonwealth of Pennsylvania or Agency thereof, or to other similar public bodies.

g. Private Fire Protection Service: Provision of water to premises exclusively for fire protection.

h. Public Fire Protection Service: The furnishing of service through public fire hydrants.

i. School Service: Provision of water and/or sewage service to public, private and other types of schools.

j. Seasonal Commercial Service: In cases where the meter size is in excess of 5/8 inch and the business conducted on the premises is of such a seasonal nature that the customer has no commercial use for water and/or sewer service of the Authority for at least two of the four quarters of the Authority's billing period, regular rates for the size meter required may, at the customer's option, be applied during a billing period involving no commercial use. This provision is not applicable for community outdoor swimming pools.

k. Temporary Service: A service for bazaars, fairs, construction work, trailers or trailer camps and similar uses that because of their nature will not require permanent or steady service.

41. SERVICE LINE CONNECTIONS: The term "Service Line Connections" shall mean the pipe, valves and other facilities by means of which the Authority conducts water from its distribution mains to the curb stop to be located at the curb line or property line of the premises, and specifically includes the corporation stop or other means of connection to the main, the service line connected to the corporation stop and extending to the point of connection to the curb stop, the curb stop, the service box and such other facilities.

42. SERVICE LINE EXTENSIONS: The term "Service Line Extensions" shall mean the pipe, valves and other facilities by means of which water is conducted from the curb stop to the premises, and specifically includes the service line extending from a point of connection to the curb stop to a point inside the walls of the premises or meter box, where approved, a stop cock

or compression valve on the line at this point, connections for the inlet and outlet sides of the meter, a stop and waste cock on the outside of the meter and such other facilities.

43. SEWAGE: The term "Sewage," as used herein, shall mean a combination of the water-carried wastes from residences, business buildings, institutions and industrial establishments, together with such ground, surface or stream water as may be present.

44. SEWAGE AGENCY – MUNICIPAL: The term "Municipal Sewage Agency," as used herein, shall mean a municipal subdivision or an authorized representative thereof, and/or owner, having the power to negotiate and enter into an agreement with the Authority relative to the furnishing of sewage service by the Authority to premises constructed or to be constructed in the municipal subdivision involved.

45. SEWAGE AGENCY: The term "Sewage Agency," as used herein, shall mean the Municipal Authority of the Township of Robinson, the incorporating municipality designating the Authority as the Sewage Agency, with the power to regulate and control the financing, design, construction and operation of sanitary sewerage systems, and to establish all schedules of fees, rates and charges.

46. SEWAGE – SANITARY: The term "Sanitary Sewage" shall mean the normal water-carried household and toilet wastes from residences, business buildings, institutions, industries and commercial establishments, exclusive of storm water runoff, surface water or ground water.

47. SEWAGE SERVICE CONNECTION: The term "Sewage Service Connection" shall mean the connection of a sewer carrying sewage to the Sanitary Sewerage System.

48. SEWAGE TREATMENT PLANT: The term "Sewage Treatment Plant," as used herein, shall mean any arrangement of devices and structures used for treating sewage.

49. SEWAGE WORKS: The term "Sewage Works," as used herein, shall mean all facilities for collecting, pumping, treating and disposing of sewage.

50. SEWER EXTENSIONS: The term "Sewer Line Extensions" shall mean

extensions of sewer lines, exclusive of building or service connections, beyond existing facilities.

51. SEWER – TYPES: The term "Sewer," as used herein, shall mean a pipe or conduit for carrying sewage, and the following different classifications of sewers are defined:

a. Building Drain: The term "Building Drain," as used herein, shall mean that part of the lowers horizontal piping of a drainage system which receives the discharge from soil, waste and other drainage pipes inside the walls of the building and conveys it to the building sewer, which begins at a point five (5) feet outside the inner face of the building wall.

b. Building Sewer or Sewer Service Line: The terms "Building Sewer" or "Sewer Service Line," as used herein, shall mean the extension from the building drain to the public sewer or other place of disposal.

c. Building Sewer Connection: The term "Building Sewer Connection" shall mean the connection of the Sewer Service Line to the public sewer.

d. Combined Sewer: The term "Combined Sewer," as used herein, shall mean a sewer receiving both surface or storm water runoff and sanitary sewage.

e. Intercepting Sanitary Sewer: The term "Intercepting Sanitary Sewer," as used herein, shall mean a sewer into which the sewage from all main and other sewers is discharged.

f. Lateral Sanitary Sewer: The term "Lateral Sanitary Sewer," as used herein, shall mean a sewer which does not receive sewage from any other common sewer.

g. Main Sanitary Sewer: The terms "Main Sanitary Sewer" or "Trunk Sewer," as used herein, shall mean a sewer that is a main stem or artery of the sewerage system.

h. Public Sewer: The term "Public Sewer," as used herein, shall mean a sewer in which all owners of abutting properties have equal rights and

is controlled by public authority.

i. Sanitary Sewer: The term "Sanitary Sewer," as used herein, shall mean a sewer which carries sewage and to which storm, surface, and ground waters are not intentionally admitted.

j. Storm Sewer: The terms "Storm Sewer" or "Storm Drain," as used herein, shall mean a sewer which carries storm and surface waters and drainage, but excludes sewage and polluted industrial wastes, where water made intentionally dirty by use is not admitted.

k. Sub-Main Sanitary Sewer: The terms "Sub-Main Sanitary Sewer" or "Branch Sewer," as used herein, shall mean a sewer into which the sewage from two or more laterals is discharged.

52. SHALL; MAY: the term "shall" means mandatory, and the term "may" means permissible.

53. SLUG: The term "Slug" shall mean any discharge of water, sewage or industrial waste, which, in concentration of any given constituent or in quantity of flow, exceeds for any period of longer duration than fifteen (15) minutes more than three (3) times its average hourly concentration of flow.

54. STORM SEWER: See SEWER – TYPES.

55. STORM WATER RUNOFF: The term "Storm Water Runoff" shall mean that portion of the rainfall that is drained into the sewers.

56. SUB-MAIN SANITARY SEWER: See SEWER – TYPES.

57. SURCHARGE: The term "Surcharge" shall mean the assessment in addition to the service charge which is levied on those persons whose wastes are greater in strength than the concentration values established as representative of normal sewage.

58. SUSPENDED SOLIDS: The term "Suspended Solids," as used herein, shall mean solids that either float on the surface of, or are in suspension in, water, sewage or other liquid, and which are removable by a laboratory filtration device. The quantity of suspended solids shall be determined by one of the acceptable methods described in the latest edition of Standard Methods for

the Examination of Water and Wastewater, published by the American Public Health Association.

59. TEMPORARY SERVICE: See SERVICE – TYPES.

60. TENANT: The term "Tenant," as used herein, shall mean anyone occupying premises under lease from a lessor and/or occupant of the premises with permission of the owner, in any premises which is about to be or can be furnished sewage service by the Authority.

61. TOWNSHIP: The term "Township," wherever the same appears herein, shall mean the Township of Robinson, Commonwealth of Pennsylvania.

62. WATERCOURSE: The term "Watercourse," as used herein, shall mean a channel in which a flow of water occurs, either continuously or intermittently.

63. WASTES – INDUSTRIAL: See INDUSTRIAL WASTES.

64. WASTE OR WATER – UNPOLLUTED: The term "Unpolluted Water or Waste" shall mean any water or waste containing none of the following: free or emulsified grease or oil; acid or alkali; phenols or other substances imparting taste and order to receiving waters; toxic or poisonous substances in suspension, colloidal state or solution; obnoxious or odorous gases. It shall contain not more than 10,000 parts per million by weight or dissolved solids, of which not more than 2,500 parts per million shall be as chloride, and not more than ten parts per million of suspended solids and B.O.D. The color shall not exceed 50 parts per million. Analyses for any of the above-mentioned substances shall be made in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater, published by the American Public Health Association.

65. WASTEWATER TREATMENT PLANT: The term "Wastewater Treatment Plant," as used herein, shall mean any arrangement of devices and structures used for treating sewage.

66. WATER MAINS: The term "Water Mains" shall mean water distribution pipelines which are located in streets, highways, public ways or private rights-of-way, and which are used to serve the general public.

67. WATER MAIN EXTENSIONS: The term “Water Main Extensions” shall mean extensions of water distribution pipelines beyond existing facilities and exclusive of service connections.

SECTION II – CONDITIONS OF SERVICE

68. GENERAL – The Authority will furnish water and/or sewer service only in accordance with the currently prevailing and as hereafter revised Rates, Rules and Regulations of the Authority, which Rates, Rules and Regulations are made a part of every application, contract, agreement, or license entered into between the property owner or customer and the Authority.

The Authority hereby reserves the right, so often as it may deem necessary, to alter, amend, and/or repeal the Rates and/or these Rules and Regulations, or any part; and in whole or in part, to substitute new Rates, Rules and Regulations, which altered, amended, and/or new rates, Rules and Regulations shall forthwith, without notice, become and thereafter, be a part of every such application, contract, agreement, or license for water service and/or sewer service in effect at the time of such alteration, amendment, and/or adoption.

SECTION III – APPLICATION FOR SERVICE AND CONTRACTS

69. APPLICATION FOR WATER AND/OR SEWER SERVICE CONNECTION – A written application, prepared on the form furnished by the Authority, must be submitted to the Authority for the purpose of requesting the installation of a water service line connection of sewer building connection to each premises or group of premises, where an individual service line or sewer connection is permitted in accordance with these Rules and Regulations; said application to be signed by the owner of the premises or his duly authorized agent; said application to be subject to such service connection fees and charges currently in effect for each of the respective service areas, which application, together with the Rules and Regulations of the Authority, shall regulate and control the service of water and/or sewer service to such premises; and said application to be submitted at least one month before the service line connection is required.

70. APPLICATION FOR WATER AND/OR SEWER SERVICE: A written application, prepared on the form furnished by the Authority, must be submitted to the Authority for the purpose of requesting water and/or sewer service; said application to be signed by the owner of the premises or his duly authorized agent, except that such application may be signed by a tenant, subject to the Authority exercising the right to require that the property owner act as guarantor for all bills as rendered if the tenant neglects to make such payments within the time specified; said application to be subject to the requirements relative to deposits and fees as hereinafter set forth; which application, together with the Rules and Regulations of the Authority, shall regulate and control the service of water to the premises; and said application to be submitted at least one week before service of water is required.

71. INFORMATION ON APPLICATIONS – Each applicant for a water service or building sewer connection and/or water and/or sewer service will be required to sign a form or forms, provided by the Authority, giving such date as may be required by the Authority.

72. APPROVAL OF APPLICATIONS – Applications are merely written requests for water service line connections or building sewer connections and/or water and/or sewer service, all applications being and are subject to approval of the Authority, being subject to payment of all required fees and compliance with all regulations relative thereto prior to commencement of

the work or service requested therein.

73. APPLICATION OF A CONTRACT – The application for water and/or sewer service shall be a binding contract on both the customer and the Authority upon approval by the Authority. Rates for water and/or sewer service shall accrue from the date the water supply service has been completed and water is available to the premises, with respect to the work and responsibilities of the Authority.

74. CONTRACTS WITH DELINQUENTS – No agreement will be entered into by the Authority with any applicant for water and/or sewer service, whether owner or tenant, until all arrears for water and/or sewer service rents, bills for meter repairs or other charges, due from applicant at any premises now or theretofore owned or occupied by him, shall have been paid or until satisfactory arrangements for payment of such unpaid bills shall have been made. Such payments shall include the minimum charge for each quarter that service was suspended but said additional charge shall not exceed the minimum charge.

75. TERM OF CONTRACT

a. All contracts covering water and/or sewer service shall continue in force from month to month or quarter to quarter, subject to the billing period, unless ten days' written notice is given by either party of a desire to terminate the contract. Excepting in the case of delinquent accounts (*see* Rule and Regulation 74 above) and those cases discussed in Section (b) of this Rule and Regulation, when written notice, as aforesaid, is given by the customer of a desire to terminate the contract and water is turned off at the curb at the end of the month or quarter, subject to the billing period, no further charge for water service will be made from the date of such turnoff until service is again turned on.

b. Where a customer suspends service temporarily, the water and/or sewer service shall not again be furnished to such premises until the minimum charges have been paid for the period of nonuse. This charge shall be in addition to any other charges due from the customer. Community swimming pools requesting service shall be billed on a basis of the actual period for which service is required. Cancellation of service is governed by Item III.

76. SPECIAL CONTRACTS – The Authority may require, prior to approval of service, special contracts other than applications, under the following conditions:

a. If required by provisions in the Schedule of Rates and Charges, the duration of the contract to be as specified in the Schedule.

b. If the construction of an extension and/or other facilities is necessary.

c. For providing temporary service, including water service for building or other special purposes. Water for building purposes shall be used only from a temporary connection approved by the Authority and shall not be permitted to flow into the building fixtures.

d. For standby or fire protection service.

e. For connections with other qualified utilities or municipal subdivisions.

f. For extensions from the water supply and/or sewer system, whether or not such facilities are to be conveyed to the Authority.

g. If deemed necessary by the Authority.

77-1. GOVERNMENTAL REGULATIONS A PART OF CONTRACT

a. All contracts for water and/or sewer service shall be subject to the following provision:

All presently existing and future mandatory statutes, ordinances, decisional rules of law, rules and regulations of any body or agency bearing on the subject matter of these Rules and Regulations are incorporated herein and incorporated into all contracts as though more fully set forth therein.

b. Without limiting the generality of the foregoing, these Rules and Regulations incorporate by reference as though more fully set forth herein, Robinson Township Ordinances Nos. 7-1991, (pertaining to Pretreatment of Industrial Waste by Industrial Contributors to the

Municipal Wastewater System) and 5-1996 (pertaining to the Moon Township Municipal Authority Industrial Waste Pre-Treatment Program) as codified at Chapter 18, the Township of Robinson Code of Ordinances, as the same from time to time may be amended.

77-2. WAIVER OF IMPLIED WARRANTIES OF FITNESS AND WAIVER OF IMPLIED WARRANTIES OF MERCHANTABILITY WITH RESPECT TO THE SALE OF WATER CONSTITUTE A PART OF ALL CONTRACTS FOR WATER SERVICE – All contracts for water service to any customer or user shall be subject to and include or be deemed to include the following provision:

> With respect to any and all water provided and/or sold by the Authority to any user or customer pursuant to any contract for the provision or sale of water, the Authority hereby disclaims and expressly excludes from any such contract, any implied warranty of merchantability and implied warranty of fitness.

78. INDIVIDUAL LIABILITY FOR JOINT SERVICE – Two or more parties who join to make application for service shall be jointly and severally liable and shall be sent single periodic bills.

79. NEW APPLICANT UPON CHANGE IN OWNERSHIP OR TENANCY OR CONDITIONS OF WATER AND/OR SEWER USE – A new application must be submitted and approved by the Authority upon any change in ownership of the property when the owner is the customer, or in any tenancy where the tenant is the customer, or upon any change in the service as described in the application; and the Authority shall have the right, upon five days' notice, to discontinue the water supply until such new application has been made and approved.

In connection with a change in service, any customer making any material change in the size, character, or extent of equipment or operations utilizing water and/or sewer service, or whose change in operations results in a substantial increase in the use of water, shall immediately give the Authority written notice of the nature of the change and, if necessary, amend their applications.

80. RENEWAL OF SERVICE – Water and/or sewer service will be renewed under a proper application when the conditions under which such service

was discontinued are corrected and upon the payment of all charges provided in the Schedule of Rates or Rules of the Authority due from the applicant.

81. CONDITION OF PLUMBING SYSTEM – The piping and fixtures on the property of the customer are assumed to be in satisfactory condition at the time service facilities are connected and water furnished; and the Authority, therefore, in connection with water service, will not be liable in any case for any accidents, breaks, or leakage that in any way are due to the connection with the supply of water, or failure to supply the same, or for the freezing of piping and fixtures of the customer, nor for any damage to the property which may result from the usage or non-usage of water supplied to the premises. In connection with sewer service, the Authority may terminate such service if the plumbing and sanitary drainage system is not in accordance with the Rules and Regulations.

SECTION IV – DEPOSITS

82. GENERAL – The following general conditions shall apply to deposits in connection with applications for water service:

a. Cash deposits are required from customers taking service for a period of less than thirty days, in an amount equal to the estimated gross bill for such temporary period. Cash deposits may be required with all applications for service and will be required in all cases involving contracts with tenants, provided that in no instance will deposits be required in excess of the estimated gross bill for any single billing period plus one month. Deposits shall be required from all applicants who are indebted to the Authority or who have impaired their credit with the Authority in any manner. No interest will be paid on deposits.

b. The payment of any undisputed bill within the mean of these Rules shall be payment of the bill by the last day of the month in which the bill was rendered, or the payment of any contested bill, payment of which is withheld beyond the period herein mentioned, if the dispute is terminated substantially in favor of the customer and if the payment be made by the customer within ten days thereafter.

c. The deposit will not bear interest.

d. Any customer having a deposit will pay bills for water and/or sewer service as rendered in accordance with the Rules of the Authority, and the deposit shall not be considered as payment on account of a bill during the time the customer is receiving water service.

e. Where the customer may desire to discontinue service within a period of less than twelve months, the Authority will refund said deposit upon return of deposit receipt, properly signed, together with payment in full for all service rendered and a notice of discontinue service, said notice to be rendered in accordance with the conditions set forth herein and subject to Paragraph (b) of Article 58 of these Rules.

SECTION V – WATER SERVICE AND HOUSE SEWER CONNECTIONS

83. SERVICE LINE CONNECTION DEFINED – WATER SERVICE CONNECTIONS – The term "Service Line Connection", as used herein and previously defined, shall include all pipe, valves, and other facilities by means of which the Authority conducts water from its distribution system or water mater line to the curb stop to be located at a point between the main water line and the curb or property line; said Service Line Connection generally to include the corporation stop and service line extending there from to a point of connection to the curb stop, the curb stop, curb box, and such other facilities.

84. SERVICE LINE EXTENSION DEFINED – The term "Service Line Extension", as used herein and as previously defined, shall include all pipe, valves, and other facilities by means of which water is conducted from the curb stop to a point on the outlet side of the meter to be located inside the walls of the building or meter pit, if approved; said service line extension generally to include the service line extending from a point of connection to the curb stop to a point inside the building wall or meter pit, a stop cock or compression valve placed immediately ahead of the meter, connections for the inlet and outlet sides of the meter, a stop and waste cock on the outlet side of the meter and such other facilities.

85. INSTALLATION SERVICE LINE CONNECTION – The Authority will install and maintain at its own cost all service line connections, make all connections to the main lines, furnish, install, and maintain all service lines from the mains to and including the curb stop and service box which will be placed inside the curb or property line, the said service line connection to be the property of the Authority and to remain under its control.

Only duly authorized employees or agents of the Authority will be permitted to install a service line connection from the mains of the Authority to the premises of the customer.

The installation of all service line connections is subject to the submission of a written application to the Authority, as previously set forth, to such requests being reasonable, to approval thereof by the Authority, and to the payment of such charges for the service line connection installation and meter settings as are in effect at the time of the application, said charges to be payable in advance. Where the governmental unit charges a fee of more

than $1.00 for issuing a permit or permits for street or road openings or for any other reason in connection therewith, the amount of the fee which is in excess of $1.00 will be charged to the applicant in addition to the other charges.

The Authority reserves the right to defer the installation of service connections during inclement weather until such times as, in the judgment of the Authority, conditions are suitable for an expeditious and economical installation.

The Authority reserves the right to determine the size and the kind of the service line connection

86. MAINTENANCE – SERVICE LINE CONNECTION – All service line connections originally furnished by the Authority will be maintained by and at the cost of the Authority without expense to the customer for repairs, renewals, or replacements.

When meter boxes are located at the curb, the riser pipes and connections therein will be installed by and at the expense of the customer, and no customer or workman shall alter, change, or in any way tamper with the meter box, meter, or piping connections therein without authorization from the Authority.

Prior to laying of new concrete sidewalks, making changes in grade or other changes in sidewalk construction, the customer shall notify the Authority, in order that the Authority may relocate the curb box and meter box, if any, at the proper grade. If such notice is not given and the box or boxes are covered or cemented over, thereby necessitating additional expense to the Authority for finding and relocating the same, the customer shall be billed for such additional expense, and the Authority will, under no circumstances, be responsible for damages to the sidewalk.

In cases where services are frozen, the Authority will, at its own expense, thaw out the service connection to the curb stop. The thawing out of the service pipe from the curb stop to the premises shall be done by the customer at his own expense. To avoid a recurrence of freezing, the Authority will make an examination of the customer's service pipe, and if the same is not at a depth of three and one-half feet as required, the Authority shall have the right to require it to be relocated before service is

resumed.

87. INSTALLATION OF SERVICE LINE EXTENSION. The Service Line Extension, as used herein and defined by Rule 42, and all required appurtenances, shall be installed by and at the sole expense of the customer. The installation shall be in accordance with the following requirements:

a. General. The installation of the Service Line Extension shall include a connection of the service line to the curb stop, extension of the service line from the curb stop to a point within the building wall or facilities housing the meter, the installation of a wheel handle round way stop cock or compression valve, without waste, the same size as the service line, on the street side and immediately before the meter, and a stop and waste cock on the outlet side of the meter, all facilities inside the building to be located so as to be readily accessible, protected from freezing and to provide proper drainage for the piping in the building, the installation to include also such facilities as are hereinafter set forth. The installation shall be made by skilled and qualified workmen. The contractor for the customer shall notify the Authority when the Service Line Extension will be installed, in order to permit the Authority to schedule its work and install the service line connection.

b. Materials and Sizes. The materials used for all service lines shall be as follows:

(i) for all service lines *two (2) inches in size and less*, the materials used shall be either:

(1) first quality soft copper service tubing, Type K, or copper pipe "l.P." size, as manufactured in accordance with Federal Specification WW-T-799 and its latest revisions, except that heavier weights shall be used if necessary for the operating and static water pressure obtained in the particular districts; or

(2) PE 4710 CTS Tube compliant with ASTM D2737 Standards.

(ii) for all service lines *in excess of two (2) inches in size*, the

materials used shall be cement-lined ductile iron pipe, manufactured in accordance with the Specifications of the A.W.W.A., Number C 151 or H21.6, and latest revisions, and shall have push-on joint ends, the joints to be in accordance with A.W.W.A. Specification C 111; the pipe to be the class required for the particular service.

The Authority may exercise the right at any time to revise these requirements and to stipulate the size and weight per foot of pipe, kind, and quality of all materials laid between the curb stop and the premises, which are to be furnished and installed by the owner of the property.

The service line shall be not less than three-quarter (3/4) inch in size and shall be in keeping with the service for larger sizes.

c. Installation and Testing Requirements.

(i) Installation. The Service Line Extension must be laid in a straight line, at right angles to the street where possible, and at a depth to provide not less than three and one-half (3½) feet of cover, and as necessary to secure proper alignment and avoid obstacles. The bottom of the trench shall be excavated so as to conform to the curvature of the pipe/line and afford good bearing surface. Where rock is encountered, the excavation shall be carried below the bottom of the pipe/line for the distance required and the excavation backfilled with earth or clay well-tamped to the proper grade.

No metal pipe shall be placed in contact with cinders or other corrosive material, unless such installation is unavoidable, in which case, after securing approval of the Authority to make the installation, the pipe shall be given two coats of asphalt and be coated with cement mortar one (1) inch in thickness. No service line shall be laid in the same trench with gas pipe/line, drain or sewer pipe/line, or any other facility of another public service company or within three (3) feet thereof, nor within three (3) feet of any open excavation or vault, nor pass through Premises other than those serviced by such consumer's service line.

The joints in all copper tubing and pipe laid underground shall be made with a mechanical coupling of a design and material satisfactory to the Authority, no soldered joint shall be used and no joints shall be made within a distance of less than five (5) feet from the exterior wall of the premises. All service lines passing through foundation or bearing walls shall be provided with suitable wrought iron sleeves of the size specified by the Authority. The space between the sleeve and the said service line shall be not less than one (1) inch around and shall be made watertight. The installation of the ductile iron service lines shall be in complete accordance with the Standard Specifications of the Authority with respect to such work, copies of which are available at the Authority office.

If using CTS for the Service Line Extension, it may be joined with Stab Fittings and OD Mechanical fittings designed for pipe made to ASTM D2737 Standards. A stiffener should be inserted when using OD Compression type fittings. The use of any lubricants on the pipe/line is prohibited.

(ii) Hydrostatic Testing. All service lines, including unmetered service lines and fire protection lines, shall be subjected to hydrostatic testing, which testing shall be conducted in the presence of, and be observed by, a representative of the Authority.

Such testing shall be conducted at one and one-half (1.5) times the working pressure of the applicable service line and with no line having a test pressure of less than one hundred (100) pounds per square inch.

The line shall be slowly filled with water, all air expelled and the maximum pressure in the Authority system allowed to develop in the service line. All pipe/line, fittings, valves, and joints shall be carefully examined during testing. All materials found defective shall be removed and replaced with sound and satisfactory materials and all leaks completely eliminated.

No loss whatsoever due to leakage shown by testing will be

permitted on service lines of two (2) inches in size or less. For service lines in excess of two (2) inches in size, the loss due to leakage shown by testing shall not exceed fifty (50) gallons per inch of diameter per mile of pipe per day.

No service line shall be covered until the service line is filled with water and subjected to the required testing.

(iii) Inspection. The Authority shall be notified, in writing, when the installation of the service line is completed, but prior to backfilling, so that an inspection of both materials and quality of workmanship can be conducted by a representative of the Authority and the service line can be subjected to the aforesaid testing in the presence of said representative. The written notice provided to the Authority shall include such data as the location of the Premises, the name of the owner and tenant and the date and time the work will be ready for inspection and testing.

Water will not be supplied through the Service Line Extension or any related part thereof or through any service or supply line which has not been inspected in the open trench and approved by the Authority. This regulation applies to both original installation and repairs.

The applicant or customer shall pay to the Authority the then-current fee for the inspection of an original installation of the Service Line Extension by a representative of the Authority and a then-current fee for each additional trip required by a representative of the Authority necessary to complete the inspection. If the inspection indicates failure to comply with the requirements, water service will not be granted until the proper remedial measures have been taken.

(Adopted by Resolution 6 of 2021)

88. MAINTENANCE – SERVICE LINE EXTENSION – All service line extensions, service lines and fixtures installed by the customer shall be maintained by him in satisfactory condition; and all valves, meters, and appliances furnished and owned by the Authority and on the property of the customer shall be protected properly and cared for by said customer. When repairs, renewals, or replacements or other necessary work are required on

the aforesaid facilities of the customer, the customer shall employ, without delay, competent tradesmen to do the work. All said work shall be done at the expense of the customer. All leaks in the service or any other pipe or fixture or in or upon the premises supplied must be repaired immediately by the owner or occupant of the premises, under penalty of discontinuance of service by the Authority.

No person shall clean the service line extension without first being granted a permit by the Authority, and such approval shall be subject to disconnection of the service line at the curb stop before cleaning, protection of the mater and other related requirements. The operation or use of the curb stop shall be subject to control by Authority employees only.

No person except an authorized agent of the Authority shall be permitted to clean the service line between the main and the curb.

The penalty for cleaning a line without permission shall be Fifty dollars ($50.00), and the liability for payment of said amount shall be jointly and severally the responsibility of the owner of the property and of the person actually doing the cleaning work.

The Authority shall in no event be responsible for maintaining any portion of the service line or service line facilities owned by the customer, or for damage done by water escaping there from, or from lines or fixtures on customer's property; and the customer shall, at all times, comply with municipal regulations with reference thereto and make changes therein required on account of change of grade, relocation of mains or otherwise.

89. LENGTH OF SERVICE LINE – The Authority will exercise the right, in cases where the length of the service line extension exceeds 100 feet and in all cases where deemed advisable, to require the customer to construct, at his expense, a watertight brick or concrete meter pit provided with a suitable iron cover and constructed in accordance with a plan furnished by the Authority, said meter pit to be constructed at the property or curb line and to be used for the housing of the meter required for the service of the premises.

90. PENALTY FOR PLACING OBSTRUCTIONS OVER, IN, OR AROUND CURB BOXES – If obstructions are placed over, in, or around curb boxes in such manner as to prevent normal operation of the curb stop or to result in damage of the curb box, curb stop, or service line, the Authority will shut the

water off at the curb stop and plug the curb box or disconnect the service line, or turn the water off at the corporation stop or ferrule, as it may deem necessary. Before service will be renewed, the customer shall pay to the Authority the expenses incurred in shutting the water off and in turning it on again, including the cost of necessary trenching and backfilling, of cutting and replacing pavement, sidewalk or curbing, of any municipal permit or permits for opening the pavement, and also shall settle any unpaid bill for water or other service, and make a satisfactory deposit to insure the payment of future water bills; the minimum charge to be as established by the Authority.

91. SERVICE LINE CONNECTION ON PRIVATE PROPERTY – Service line connections will not be installed on property other than that of the premises to be furnished water unless the owner of the premises obtaining such service assumes all liability.

92. ONE SERVICE CONNECTION FOR EACH CUSTOMER – A service line will be used to supply a single customer only, and no premises shall have more than one service connection except where impossible or impracticable to furnish an adequate water supply service thereto through one service connection; in which event, the Authority may agree to the installation and use of more than one such connection.

93. SINGLE SERVICE LINE WITH TWO OR MORE CUSTOMERS – Where two or more customers are supplied through a single service line, any violation of the Rules of the Authority by either or any of said customers shall be deemed to be a violation as to all; and unless said violation is corrected after reasonable notice, the Authority may take such action as can be taken for a single customer, except that such action shall not be taken until the innocent customer who has not violated the Authority's rules has been given a reasonable opportunity to attach his service pipe to a separately controlled service connection.

94. OTHER SERVICE LINE EXTENSION REQUIREMENTS – The Authority reserves the right to require any owner to install on or in conjunction with his service line, such valves, stop cocks, check valves, relief valves, pressure regulator, back flow prevented, air chamber, tank, float valve, or other apparatus of approved design, when and where, in its opinion, the conditions may require it for the safeguarding and protection of the Authority's property or the water supply.

Should the use of water through a service line connection become excessive during periods of peak use, and cause substantial decrease in pressure in the distribution system of the Authority to the extent that normal water service to other customers is impaired, the Authority exercises the right to require the installation of properly designed and adequate storage facilities on the system of the premises involved.

The said facilities shall include all piping, valves, fittings, storage structures, pumps, automatic controls, and such other appurtenances as are required to permit the storage of water and delivery there from during periods of peak water use on the premises and thereby avoid a direct use from the system of the Authority during such periods. The basic design of such systems shall be subject to approval by the Authority.

When steam boilers take a supply of water directly from the service pipe, depending upon the hydraulic or hydrostatic pressure in the pipe system of the Authority for their supply under working pressure, it will be at the risk of the parties making such attachments, as the Authority will not be responsible for any accidents or damages to which such devices are frequently subject.

House boilers for domestic use must in all cases be provided with vacuum valves to prevent collapsing when water is shut off from the distributing pipes. The Authority will in no case be responsible for accidents or damages resulting from failure to observe this rule or due to conditions in the distributing pipes, or from the imperfect action of any such valves, or due to such other causes.

95. CHANGE IN LOCATION OF SERVICE LINE CONNECTION – The customer shall pay for the cost of relocation of all service line connections made at his request or for his convenience.

96. RENEWAL OF SERVICE LINE – Where renewal of service line from the street main to the curb is found necessary, the Authority will renew said service in the same location as the old one. If the property owner or customer, for his own convenience, desires the new service line at some other location and agrees to pay all expenses of such relocation in excess of the cost of laying the service line in the same location as the old service line and cutting off and disconnecting the old service line, the Authority will lay the new service line at the location desired.

97. USE OF CURB STOPS – Curb stops at the curb line shall not be used by the customer for turning on or shutting off the water supply. The control of the water supply by the customer shall be by means of a separate stop cock located, in general, just inside the building wall. Curb stops are for the exclusive use of the Authority.

98. BUILDING SEWERS AND CONNECTIONS – DESIGN AND CONSTRUCTION – No authorized person shall uncover or make any connections with or opening into, use, alter, or disturb any sewer owned by the Authority without first having obtained a written permit from an authorized official. All systems other than those owned by the Authority shall be subject to the regulations set forth herein or to regulations establishing higher standards.

All costs and expenses incident to the installation and connection of the building sewer shall be borne by the Owner. The Owner shall indemnify the Authority from any loss or damage that may directly or indirectly be caused by the installation of the building sewer.

The main drainage system of every house or building shall be separately and independently connected with the street sewer, except where one building exists or is erected in the rear of another, or on an interior lot, or of single ownership, and any private sewer is available to can be constructed to the rear building through an adjoining alley, courtyard, or driveway, the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer.

The use of old building sewers in connection with new buildings will be permitted only when they are found, upon examination, and tested by the Authority or other authorized persons or agencies, to meet all requirements set forth herein.

All sewers laid beneath the floor must be extra heavy cast iron soil pipe with leaded ad caulked joints and extended at least five feet outside the cellar wall. Substitute material approved by the Allegheny County Health Department will be acceptable.

The building sewer must be provided with a horizontal, intercepting trap placed inside the cellar wall or as close thereto as practical. The trap must

be provided with a hand hole for convenience in cleaning, the cover of which must be properly fitted and made gastight and airtight with a heavy brass screw-cap ferrule caulked into the trap fitting.

A fresh air inlet must be connected with the drain just inside the intercepting trap. Where underground, it must be extra heavy cast iron. Said inlet must head into the outer air and finish with an approved open grill, at a point just outside the front wall of the building. The fresh air inlet must be the same size as the drain, up to four inches, for drains five inches and six inches in size, it must not be less than four inches, for drains seven inches and eight inches in size, it must not be less than six inches, and for larger drains, not less than eight inches in size or its equivalent.

The building sewer shall be cast iron soil pipe, A.S.T.M. Specification A74-62 or equal; vitrified clay sewer pipe, A.S.T.M. Specification C13-44T or equal; polyvinyl chloride (PVC) A.S.T.M. D3034 type SDR 35, or other suitable material approved by the Authority or authorized agency. Joints shall be tight and waterproof. Cast iron pipe with leaded joints may be required where the building sewer is exposed to damage by tree roots. If installed in filled or unstable ground, the building sewer shall be of cast iron soil pipe, except that nonmetallic material may be accepted if laid on a suitable concrete bed or cradle, as approved.

The size and slope of the building sewer shall be subject to approval, but in no event shall the diameter be less than six inches. The slope of such six-inch pipe shall not be less than 1/4-inch per foot.

Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. No building sewer shall be laid parallel to or within three feet of any bearing wall which might thereby be weakened. The depth shall be sufficient to afford protection from frost. The building sewer shall be laid at uniform grade and in straight alignment insofar as possible. Changes in direction shall be made only with properly curved pipe and fittings.

In all buildings in which any building drain is too lot to permit gravity flow to the public sewer, sanitary sewage carried by such drain shall be lifted by approved artificial means and discharged to the building sewer.

All excavations required for the installation of a building sewer shall be

open trench work unless otherwise approved. Pipe laying and backfill shall be performed in accordance with A.S.T.M. Specification C12-19, except that no backfill shall be placed until the work has been inspected.

All joints and connections shall be made gastight and watertight.

Cast iron pipe joints shall be firmly packed with oakum or hemp and filled with molten lead, Federal Specification QQ-L-156, not less than one inch deep. Lead shall be run in one pouring and caulked tight. No paint, varnish, or other coating shall be permitted on the jointing material until after the joint has been tested and approved.

All joints in vitrified clay pipe between such pipe and metals shall be made with approved, hot-poured joint materials. Material for hot-poured joints shall not soften sufficiently to destroy the effectiveness of the joint when subjected to a temperature of 160 degrees Fahrenheit, nor be soluble in any of the wastes carried by the drainage system. The joint shall first be caulked tight with jute, hemp, or similar approved material.

Other jointing materials and methods may be used only if approved.

The connection of the building sewer into the public sewer shall be made at the "Y" branch, if such branch is available at a suitable location. If the public sewer is 12 inches in diameter or less, and not properly located "Y" branch is available, the Owner shall, at his expense, install a "Y" branch in the public sewer at the location specified. Where the public sewer is greater than 12 inches in diameter, and no properly located "Y" branch is available, a neat hole may be cut into the public sewer to receive the building sewer, with entry in the downstream direction at an angle of about 45 degrees. A 45-degree ell may be used to make such connection, with the spigot end cut so as not to extend past the inner surface of the public sewer. A smooth, neat joint shall be made, and the connection made secure and watertight by encasement in concrete. Special fittings may be used for the connection only when approved. The Authority and/or Township may refuse a permit to connect direct to the main intercepting sewer and require extensions and connections to a manhole.

The applicant for the building sewer permit shall notify the Authority of authorized agency when the building sewer is ready for inspection and connection to the public sewer. The connection shall be made under the

supervision of the Authority or authorized agency.

All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways, and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the local municipality.

SECTION VI – METERS – WATER SERVICE

99. GENERAL – All meters, unless otherwise indicated, will be furnished and installed by the Authority, subject to the fees currently in effect, and will remain the property of the Authority and be accessible to and subject to its control and maintenance. Meters of the fire type will not be installed for general service. Meter will be required for each separate service line connection supplying a premise except as otherwise provided herein.

100. SIZE OF METER – The Authority reserves the right in all cases to stipulate the size and type of the meter to be installed on each service line and to require the installation of a larger size meter in any case where the peak use of water places any meter under undue or unusual strain and/or exceeds the recommended meter capacity, and reserves the right to charge the fees currently in effect for the larger meters.

The minimum size of a meter installed shall be the same size as the service line, except that, on a ¾-inch or 1-inch line serving a domestic customer, the privilege of using a 5/8-inch meter may be allowed by the Authority.

101. LOCATION – The location for the meter shall be subject to the approval of the Authority, shall be at a convenient and accessible point, shall permit control of the entire supply, and shall allow proper protection of the meter from freezing or other harm.

No fixture shall be attached to, or any branch made, in the service pipe between the meter and the street main.

In cases where it is not practical to place the meter within a building, the Authority may require the property owner to construct, inside the property line, a brick or concrete meter pit having minimum dimensions of 4 feet x 4 feet x 4 feet with a suitable iron cover or a similar type of approved meter box, such installation to be made in accordance with a plan furnished or approved by the Authority. The design of the meter pit shall permit adequate access to the meter and easy installation or removal.

102. INSTALLATION OF METER – All piping, fittings, valves, check valves, gauges, bolts, nuts, meter pit structures, manholes, or other accessories or materials, and the labor for installing the same, used in connection with meter settings within the property line of the premises, shall be at the

expense of the applicant. The customer shall employ for this work the services of skilled tradesmen, qualified and approved by the Authority, who shall cooperate with the Authority and install all the piping and appurtenances in accordance with the dimensions and requirements for each specific case, so that the meter or meters can be properly installed by the Authority.

The customer shall furnish and install on the service line a wheel handle round way stop cock or gate valve, without waste, the same size as the service line on the street side and immediately before the meter, and a stop and waste cock or valve on the outlet side and immediately after the meter. A suitable check valve shall be furnished and installed by the customer at a point between the stop and waste cock or valve and the meter. When a check valve is installed, a safety valve shall be furnished and installed by the customer at a convenient point in the house piping to relieve excess pressure due to hearing of water.

Under certain conditions where there is a demand or necessity for uninterrupted water service, in order to eliminate inconvenience to both the customer and the Authority when repairs to or replacement of the meter is necessary, the Authority may, at its option, require the installation of a battery of two or more meters on the one service line, with a combined capacity approximately equal to the capacity of the single meter requested. Such installations shall be properly valved to control or cut any single meter out of service and permit its removal without interruption of service through the remaining meter or meters. In cases where meters are so installed, or where the Authority requires more than one meter, bills will be rendered separately for each meter; the minimum charges therefore also to apply.

103. MAINTENANCE, CARE, AND RESPONSIBILITY FOR DAMAGE – The Authority will maintain all meters at its expense, except that the customer is liable and responsible for all damage to all meters while on his premises. In the event of the injury to or nonworking of the meter, the customer shall promptly notify the Authority. The Authority will furnish and set another meter to replace the one frozen or damaged by such causes, and the cost of the repairs to the same, including replaced parts, labor, and transportation charges, as well as the cost of testing and costs for reinstallation or changing of the meter, *shall be billed to the customer and paid for by him. The minimum cost for repairing a frozen meter shall be as established by the Authority*.

104. METER TESTS – All meters are accurately tested before installation and thereafter are periodically tested.

Should the customer or the Authority at any time doubt the accuracy or correctness of the meter measuring water delivered to the customer's premises, the Authority will, upon a written request of the customer, and if he so desires in his presence or that of his authorized representative, make a test of the accuracy of the meter. When a customer desires, either personally or through a representative to witness the testing of a meter, he may require the meter to be sealed in his presence before removal, which seal shall not be broken until the test is made in his presence. If the meter so tested shall be found to be accurate within the limits herein specified, a fee determined from the schedule indicated shall be paid to the Authority by the customer requesting such test, but if not so found, then the cost thereof shall be borne by the Authority. When making such request, the customer shall agree to the basis of payment herein specified or as currently in effect.

A report of such tests shall be made to the customer and a complete record of such tests shall be kept by the Authority. The amount of the fee shall be as currently in effect for each water service meter having an outlet not exceeding one inch. For other water service meters having an outlet not exceeding two inches, the test fee shall be determined at that time. Rates for testing meters not included in the above classification, or which are so located that the cost is out of proportion to the fee specified, will be furnished by the Authority after an appraisal has been made to determine the cost. The fees as stipulated shall be payable by the applicant in advance.

In the event the meter so tested is found to have an error in registration in excess of four percent (4%), the cost of the test will be borne by the Authority and the advance fee will be refunded. The bill, based on the last reading of such meter or meters, shall be corrected accordingly. This correction shall apply both for over and under registration.

The Authority reserves the right to remove and test any meter at any time at its own expense and, if such meter is found to be inaccurate, to substitute another meter of the same size in its place, either permanently or temporarily.

104.1 CHANGE IN LOCATION OF METERS – The customer shall pay for the cost of relocation of all meters made at his request or for his convenience.

105. ABATEMENT: Customers desiring an abatement from water bills due to vacancies shall give written notice at the office of the Authority requesting the water to be shut off. Abatement will be made of a portion of the charges in the proportion that the period when water has been shut off bears to the entire period. No adjustments on meter bills will be made for any reason other than incorrect registering of meter. No adjustment shall be made on meter bills for leaks or for water wasted or damaged or defective fixtures or plumbing and/or such other causes.

106. SEALS – No seal placed by the Authority for the protection of any meter, valve, fitting, or other water connection shall be tampered with or defaced. It shall not be broken except upon authorization from the Authority, or in the presence of an Authority representative. Where the seal is broken, the Authority reserves the right to remove the meter for test at the expense of the Customer, even though said meter registers accurately.

107. LEAKS – Customers are urged to give careful attention to their plumbing and fixtures and make immediate correction of all leaks. No allowance will be made by the Authority for water used, lost, stolen, or otherwise wasted through the water meter.

108. READING AND REGISTRATION OF METERS – Readings of meters shall be taken monthly or quarterly, at the option of the Authority, and the quantity recorded by the meter shall be taken to be the amount of water passing through the meter, which amount will be conclusive on both the customer and the Authority, except when the meter has been found to be registering inaccurately or has ceased to register. In such cases, the quantity may be determined by the average registration of another meter for a period of at least 20 days, or of the same meter for a period of at least 20 days after it has been repaired, tested, and reset; or the quantity consumed during a previous corresponding period may be used as a basis for settlement. If none of these methods can be applied fairly, another method may be used that will be just and reasonable to the Authority and to the customer.

109. ACCESS TO METERS – The Authority at all reasonable times shall have access to meters, service connections, and other property owned by it on customers' premises, for the purpose of maintenance, operation, and meter reading. The failure to permit reasonable access shall be sufficient cause for discontinuance of service.

Should Authority's agent, empowered to read meters, be unable to obtain access for two consecutive regular periods of meter reading, the customer may be notified of his default by leaving a notice on the premises that customer must arrange for access for the Authority meter reader within five days. Should customer fail to make such arrangements for meter reading during meter reader's normal working hours within said five-day period, a notice shall be given either by registered mail or by delivery to an adult member of customer's household on the premises. Said notice shall advise that water service will be discontinued five days after mailing or service of the notice, unless customer has ceased to be in default under the terms of these Rules and Regulations.

For each notice of discontinuance as provided in this paragraph, a penalty as established by the Authority Board shall be imposed. This penalty shall be in addition to any charge made under these Rules and Regulations because of a renewal of service after discontinuance.

110. NOTIFICATION RELATIVE TO CONDITION OF METER – The customer shall notify the Authority of damage to or of the nonworking of the meter, or of the breaking of the seal or seal wire, as soon as he is cognizant of such a condition.

111. MINIMUM CHARGE – Every meter is installed subject to a fixed minimum monthly or quarterly charge in accordance with the rates thereof, for which certain quantities of water will be allowed without additional charge; and where more than one premises is furnished service through one meter, the same fixed minimum monthly or quarterly charges shall apply for each and every premises, the method of preparing bills for such installation being set forth elsewhere herein. Such minimum shall be nonabatable for a nonuser o water, and noncumulative against subsequent consumption. In the case of fractions bills covering less than a month or a quarter, monthly or minimum charges and allowances shall be prorated.

SECTION VII – USE OF SEWER

112. REQUIRED USE – All premises accessible to the public sanitary sewerage system shall be connected to the system, at the expense of the user and/or property owner.

a. All premises accessible to the sanitary sewerage system upon which a building is hereafter constructed shall be connected to the system at the expense of the user and/or property owner.

b. All premises which hereafter become accessible to the sanitary sewerage system shall be connected to the system at the expense of the user and/or property owner, and such connection shall be made within three months after notice to make connection is issued by the Authority or its authorized representatives.

c. All connections shall be made in accordance with requirements previously set forth and in accordance with the Plumbing code or other applicable requirements of the municipality.

d. It shall be unlawful for any person owning any occupied building or premises accessible to the public sanitary sewerage system to erect, construct, use, or maintain or cause to be erected, constructed, used, or maintained any privy, cesspool, sinkhole, septic tank, or other receptacle on such premises for receiving sanitary sewage.

e. No person shall discharge or cause to be discharged into the sewerage system any storm water, surface water, ground water, roof runoff, subsurface drainage, cooling water, or unpolluted industrial process water, and connections permitting such discharges shall be eliminated within three months after notice to take such action is issued by the Authority or its authorized representative.

f. The Authority reserves the right to prohibit connections to the system, or to enforce discontinuance of the use of the sewerage system for deleterious industrial wastes, or to require pretreatment of such wastes in order to prevent damage to or adverse effect upon the system. The design, construction, and operation of such pretreatment facilities shall be subject to approval of the Authority.

g. The industrial wastes will be considered harmful, in general, if the discharge thereof into the system may cause any of the following:

1. Chemical reaction either directly or indirectly with the materials of construction of the public sewerage system in such a manner as to impair the strength or durability of the sewer structures.

2. Mechanical action that will result in damage to the sewer structures.

3. Prevention or interference with the normal inspection or maintenance of the sewer structures.

4. Reduction of the hydraulic capacity of the sewer structures.

5. Danger to public health and safety.

6. Obnoxious conditions inimical to public interest.

h. Subject to requirement by the Authority, a suitable manhole or manholes shall be constructed on the building or connecting sewer to facilitate observation, sampling, and management of flow from the premises, when the discharge form such premises, including industrial wastes or industrial wastes and sanitary sewage combined, is in excess of 100,000 gallons per quarter. Such structures shall be constructed in accordance with plans approved by the Authority and shall be accessible, properly designed, and in a safe location. The structures shall be constructed and maintained by the owner at his expense and shall be maintained to be safely accessible at all times. The providing of such structures is mandatory.

113. PROHIBITED USES – Except as hereinafter provided, no person shall discharge or cause to be discharged any of the following waters or wastes to any public sewer:

a. Any liquid or vapor having a temperature higher than 150° F. or less than 32° F.

b. Wastes containing liquids, solids, or gases which, by reason of their nature or quality, may cause fire, explosion, or be in any other way

injurious to persons, the structures of the sewerage system or its operation.

c. Any water or wastes having a pH lower than 5.5 or higher than 9.0 or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the sewage works. The Authority may require installation and maintenance, where necessary, of suitable equipment to continuously measure and record the pH of wastes discharged.

d. Wastes containing any noxious or malodorous gas or substance which, either singly or by interaction with sewage or other wastes is, in the opinion of the Authority, likely to create a public nuisance or hazard to life or prevent entry to sewers for their maintenance and repair.

e. Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure, hair, chemical paints or residues, greases, lime slurry, or any other solid or viscous substances capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewage works. Maximum permissible concentration will vary throughout the system, depending on size of the sewer and flows.

f. Wastes containing insoluble, non-flocculent substances having a specific gravity in excess of 2.65.

g. Wastes containing soluble substances in such concentrations as to cause the specific gravity of the waste to be greater than 1.1.

h. Any water or waste that may contain more than 200 milligrams per liter of fat, oil, or grease. (Note: Surcharges are applied above 100 milligrams per liter. Rule 134[d].)

i. Wastes containing more than 10 ppm of any of the following gases: hydrogen, sulfide, sulfur dioxide, or any of the halogens.

j. Wastes containing gases or vapors either free or occluded, in concentrations toxic or dangerous to humans or animals.

k. Any waste containing toxic substances in quantities sufficient to

interfere with the biochemical processes of sewage treatment works or that will pass through the sewage treatment works and exceed the Federal, Pennsylvania, or interstate compact requirements for the receiving stream.

l. Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the treating sewage treatment plant.

m. Any toxic radioactive isotypes with a special permit.

n. Wastes containing any of the following substances in solution concentrations exceeding those shown in the following table:

SUBSTANCE	MAXIMUM PERMISSIBLE CONCENTRATION PARTS PER MILLION
Phenolic compounds As C6H50H	1
Cyanides as CN	2
Cyanates as CNO	10
Iron as Fe	17
Trivalent chromium as Cr	3
Hexavalent chromium as Cr	1
Nickel as Ni	3
Copper as Cu	2
Lead as Pb	2
Tin as Sn	2
Zinc as Zn	2
Cadmium as Cd	2

o. Any garbage that has not been properly shredded. (See Section 1 – Definitions, Nos. 17 and 1.).

p. Any discharges having a Biochemical Oxygen Demand (BOD) in excess of 600 Parts Per Million. (See Section 1 – Definitions, Nos. 2 and 29.) (Note: Surcharges are applied above 300 Parts Per Million. Rule 134[b].)

q. Any discharges containing Suspended Solids (See Section 1 – Definitions, No. 58) in excess of 700 Parts Per Million. (Note: surcharges are applied above 350 Parts Per Million. Rule 134[c]).

Grease, oil, and sand interceptors shall be provided when, in the opinion of the Authority, or authorized agency, they are necessary for the proper handling of liquid wastes containing grease and/or in excessive amounts, or any flammable wastes, sand, and other harmful ingredients, except that such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the Authority or authorized agency and shall be located so as to be readily and easily accessible for cleaning and inspection.

Grease and oil interceptors shall be constructed of impervious materials capable for withstanding abrupt and extreme changes in temperature. They shall be of substantial construction, watertight, and equipped with easily removable covers which, when bolted in place, shall be gastight and watertight.

Where installed, all grease, oil, and sand interceptors shall be maintained by the Owner, at his expense, in continuously efficient operation at all times.

Where preliminary treatment facilities are providing for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner, at his expense. (See Section 1 – Definitions, No. 28).

When required, the Owner of any property served by a building sewer carrying Industrial Wastes (see Section 1 - Definitions, No. 20) shall install a suitable control manhole in the building sewer to facilitate observation, sampling, and measurement of the wastes. Such manhole, when required, shall be accessible and safely located and shall be constructed in accordance with plans as approved by the Authority. The manhole shall be installed by the Owner at his expense and shall be maintained by him so as to be safe and accessible at all times.

All measurements, tests, and analyses of the characteristics of waters and wastes shall be determined in accordance with “Standard Methods for the Examination of Water and Wastewater” and shall be determined at the control manhole provided, or upon suitable samples taking at said control

manhole. In the event that no special manholes have been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected.

No Customer (see Section 1 – Definitions, No. 13) or user shall discharge wastewater containing concentrations of pollutants in excess of above stated limits, unless a written permit has been granted to the Customer or user as a Special Permit Condition, which shall specify the adjusted limits of higher concentration in conjunction with requirements that such Customer or user construct a pretreatment facility or institute changes in its operation and maintenance procedures to reduce the concentrations of pollutants to a level not exceeding the standards set forth herein.

SECTION VIII – SERVICE

114. DISCONTINUANCE OF SERVICE

a. By customer: Any customer may terminate his service contract with the Authority by reason of moving permanently away from the premises, and have his water service discontinued upon giving written notice thereof to the Authority, and; upon the lapse of a reasonable time thereafter to permit the Authority to take final meter readings and attend to other details in connection with such discontinuance of service. The customer shall remain liable for water furnished to the premises described in his application until the Authority has received written notice from him and the termination of service has taken effect as stated above.

Where a customer temporarily suspends service, either for the purpose of using another source of water or for any other reasons, water shall not again be furnished to such person until the minimum meter charge has been paid for the period of nonuse, provided such period charged for shall not exceed four quarters or one year. This charge shall be in addition to any other charges due from the customer.

Discontinuance of service by the Authority for nonpayment of a bill or violation of these rules shall not cancel the application for service nor constitute a waiver of this rule.

b. By Authority: Service under application may be discontinued for any of the following reasons:

1. For misrepresentation in the application.

2. For the use of water for or in connection with, or for the benefit of, any other premises or purposes other than those described in the application.

3. For willful waste of water through improper or imperfect pipes, fixtures, or otherwise.

4. For failure to maintain in good order the service lines and fixtures owned by the applicant.

5. For molesting or in any other way interfering with any service pipe, meter, meter box, curb stop, curb box, or with any seal on any meter or other fixtures and appliances of the Authority.

6. In case of continued vacancy of the premises.

7. For refusal of reasonable access to the premises for purposes of inspecting the piping, fixtures, and other water system appliances therein, or for reading, caring for, repairing, or removing meters.

8. For neglecting or refusing to make or renew advance payments where required or for nonpayment of water and/or sewer service, or for any other charge accruing under the application.

9. Where the contract has been in any way terminated by the customer.

10. For making or refusing to sever, upon notice, any cross connection between a pipe or fixture carrying water furnished by the Authority and a p8ipe or fixture carrying water from any other source.

11. For resale of water except where subject to a special agreement.

12. For premises where the demand for water is greatly in excess of past average or seasonal use, or where such excessive demands for water by the premises are or may be detrimental or injurious to, or make inadequate, or in any way impair water service furnished to other customers.

13. For premises where apparatus, appliances or equipment using water is dangerous, unsafe, and not in conformity with any laws or ordinances.

14. For fraud or abuse.

15. For nonpayment of billings for sewer service.

16. For violation of these Rules and Regulations or other requirements governing the supply of water furnished by the Authority.

115. RENEWAL OF SERVICE AFTER DISCONTINUANCE – Service may be renewed under a proper application when the conditions under which such service was discontinued are corrected and upon the payment of all proper charges or amounts provided in the schedule of rates or rules of the Authority due from the applicant.

116. TURNOFF WITHOUT AUTHORIZATION – The customer shall not turn the water on or off at any corporation stop or curb stop, or disconnect or remove the meter, or permit its disconnection or removal, without the consent of the Authority.

117. SUSPENSION OF SERVICE DUE TO EMERGENCY – The Authority shall have the right, as necessity may arise in case of breakdown, emergency or for any other unavoidable cause, to cut off the water supply temporarily in order to make necessary repairs, connections, and to do such other work. The Authority will use all reasonable and practical measures to notify the customer of such discontinuance of service. In such cases, the Authority shall not be liable for any damage or inconvenience suffered by the customer or any claim against it any time for interruption in service, lessening of the supply, inadequate pressure, poor quality of water, or for any other causes beyond its control; and such temporary shutoff of the water supply shall not entitle the customer to any abatement or deduction in or from the water and/or sewer service charges, or for the refund of any portion of such service charges paid in advance during or for the time of such shutoff. When a supply of water is to be temporarily cut off, notice will be given, when practicable, to all customers affected by the shutting off, stating the probable duration of the interruption of service and also the purpose for which the shutoff is made. Nothing in these Rules contained, however, shall be construed as a guarantee, covenant, or agreement of the Authority to give notice of any shutoff due to emergencies or otherwise.

118. RESERVE SUPPLY – The Authority shall have the right to reserve a sufficient supply of water at all times in its storage facilities to provide for fire and other emergencies or may restrict or regulate the quantity of water used by customers in case of scarcity or whenever the public welfare may require it.

SECTION IX – PUBLIC FIRE SERVICE

119. APPLICATION FOR FIRE HYDRANT AND LOCATION – A written application prepared on the form furnished by the Authority must be submitted by any municipality that is served water by the Authority, for the purpose of requesting the installation of public fire hydrants, said application to be signed by duly authorized officials of the municipality

The application must be accompanied by a plan showing the proposed location of each fire hydrant on the public highway or public property, showing the line and grade of the highway or area and such other data.

The Authority will determine whether proper service can be furnished at the fire hydrant under normal and ordinary conditions, subject to the size of the existing street main, to the sizes of the lines in the surrounding distribution system, to the available pressures and to such other factors. The municipality will be advised relative thereto.

The entire cost of a fire hydrant installation must be borne by the municipality subject to such reimbursement, if any, currently in effect at the time.

A fire hydrant installation is intended to include a tee and other fittings required in the main line, a branch 6-inch line extending from the tee placed in the main line to the fire hydrant, a valve in the 6-inch line and a valve box, a standard Authority fire hydrant, proper blocking of the fire hydrant, the tee and other fittings, and such other work as is indicated on the standard plans of the Authority relative to fire hydrant installations.

Each fire hydrant will be subject to the public fire service charge set forth in the Rate Schedule.

120. MAINTENANCE – All fire hydrants will be maintained by the Authority at its own cost and expense, provided that any expense for repairs caused by carelessness or negligence of the employees of the particular municipality or member of the fire department thereof shall be paid for by the municipality.

121. ALLOWABLE USE – Only persons authorized by the Authority shall take water from any public fire hydrant or hose plug, except for fire purposes or for the use of the fire department in cases of fire; and no public fire hydrant

shall be used for sprinkling streets, flushing sewers or gutters, or for any other than fire purposes, except with the approval and issuance of a permit by the Authority; said permit being subject to revocation at any time, If prior approval has not been granted and a fire hydrant or hydrants are used by a fire department, municipality, or any others, such party or parties shall notify the Main Office of the Authority of such use immediately in order to allow the Authority's checking the condition of the hydrant or hydrants.

122. CHANGE OF LOCATION – Whenever a municipality or person or persons desire a change in the location of any fire hydrant, the Authority, upon written notice to do so, will make such a change if determined feasible, at the expense of the municipality or person or persons, subject to the right of the Authority to refuse such location because of the size of main, pressure, condition of distribution system, and other reasonable causes.

123. INSPECTION – Upon request of duly authorized officials of any municipality, the Authority will make inspections at convenient times and at reasonable intervals to determine the condition of the fire hydrants, such inspections to be made by a representative of the Authority and a duly authorized representative of the municipality.

SECTION X – PRIVATE FIRE SERVICE

124. APPLICATION FOR PRIVATE FIRE PROTECTION SERVICE – A written application prepared on the form furnished by the Authority must be submitted to the Authority for the purpose of requesting a special fire connection for private fire protection service, said application to be signed by the owner of the premises or his duly authorized agent, said application to be subject to such fees and terms and conditions as are hereinafter set forth and included therein, and to the execution of a contract, which application, together with the Rules and Regulations of the Authority, shall regulate and control the furnishing of such services to such premises, and said application to be submitted at least two months before the service line is required.

The application shall be accompanied by accurate plans showing the proposed fire protection system and appurtenances and showing any other water supply system and appurtenances which may exist on the premises. No fire protection facilities involving the use of the Authority water shall be installed at any time, and no changes in or additions to said fire protection facilities shall be made without prior approval by the Authority, said fire protection facilities to include all pumping and/or mechanical means of taking water from the Authority system, storage stands, and all such facilities. All approvals will be subject to Section XI, Responsibility for Fire Service, and shall be subject to such restrictions and limitations as established by the Authority.

125. INFORMATION ON APPLICATION – Each applicant for a special connection to be used for private fire protection will be required to sign a form or forms provided by the Authority, as previously set forth, the following data to be included thereon and/or attached thereto:

a. The date and place of the application.

b. The name of the owner and tenant of the premises.

c. The location of the premises to be served, including the name of the street, the lot number, the municipal subdivision, and the general location.

d. The date on which the applicant will be ready for service.

e. Whether the premises have ever before or are now being furnished water service or ever before been given a special connection by the Authority.

f. The number, type, and location of the fixtures, sprinklers, devices, fire hydrants, and other openings that will be attached to the service line extending into and throughout the premises.

g. The purpose for which service will be used and whether such service will be temporary.

h. The size of the service.

i. The address to which bills are to be mailed or delivered.

j. Whether the applicant is an owner or tenant of, or agent for, the premises.

k. An agreement to abide by all Rules and Regulations of the Authority.

l. Such other information as the Authority may reasonably request.

126. APPROVAL OF APPLICATIONS – The application does not bind the Authority to approve the requested special connection. The Authority will make an engineering study of each proposed installation to determine whether such a connection is reasonable and practical, and whether such a connection will in any way endanger the general water service in the vicinity; the Authority reserving the right to refuse approval of an application relative thereto. The Authority further reserves the right to make an approval subject to the installation of adequate storage facilities and related appurtenances on the premises thereof, if found necessary in order to permit the maintenance of adequate water service to other customers.

127. TERMS AND CONDITIONS – The final approval of an application and furnishing of private fire protection service will be subject to the execution of a contract between the responsible parties and the Authority, containing the following terms and conditions and containing such other terms and conditions as are found necessary:

a. That the Authority, by its representatives, shall have the right to enter

the premises of the applicant at any reasonable time for the purpose of making such inspections as it may deem necessary, and it shall have the right to attach any testing device or use any means which it may elect to ascertain the condition of the pipe and appurtenances and uses made of same.

b. That the service connection from the street main up to and including the curb or valve box and control valve shall be installed at the expense of the applicant and shall be maintained by the Authority: that all other pipe, fixtures, and appurtenances shall be installed in accordance with the requirements set forth relative to service line and/or water main extensions and maintained in good condition by and at the expense of the applicant. In such instances where the service connection is approved to provide fire protection service and other metered service, always being subject to a design satisfactory to the Authority, the control valves on the fire service line may be installed on the property of the premises at approved locations.

c. The Authority shall install, at its expense, a detector device on said service pipe at such location as may be determined by the Authority. Such detector device shall be maintained by the Authority and shall be subject to the control of the Authority.

d. The said control valve shall be under the control of the Authority, except during times of fire when it shall be under the control of the Chief of the Fire Department of the municipality in which the premises are located, and the applicant agrees to obtain approval of this application by the Chief.

e. That all fixtures and openings (other than the controlling valves) shall be kept closed and sealed and not opened or used except during times of fire. Upon the extinguishment of each fire, the applicant shall immediately notify the Authority so that said fixtures and openings can again be closed and sealed.

f. That the applicant agrees the Authority shall not be considered in any manner an insurer of property or persons, or to have undertaken to extinguish fire or to protect any person or property against loss or damage by fire or otherwise.

g. That the applicant does not contemplate uses of fixtures other than herein stated. If a supply of water for use other than extinguishment of fire is desired by the applicant, the same shall be taken only through a service pipe separately connected with the street main of the Authority and not connected directly or indirectly with the service pipe contemplated by this application. The Authority may consider approval of alternate designs contrary to this condition, in the case of public bodies, schools and public institutions. Any waste of water or use of water for purposes other than the extinguishment of fire through this connection shall be deemed a violation of the terms and conditions of this application and the rules and regulations of the Authority.

h. That the applicant shall furnish, attach, and make a part hereof, an accurate sketch showing the pipes, valves, hydrants, tank openings, and appurtenances contemplated in this application. Such sketch must also show any other water supply system and pipelines and appurtenances which may exist on the premises. There shall be no connection between such other supply and pipes connected to the Authority's mains.

i. That the rights and obligations of the applicant hereunder shall be further subject at all times to the Rates, Rules, and regulations of the Authority that now exist or which may hereafter be adopted.

j. That the applicant agrees to obtain, in advance, the approval of the authority for any change, alteration, addition, or deduction contemplated in the fixtures, openings, and uses herein specified.

k. That, upon acceptance by the Authority and the completion of the service connection herein contemplated, the application shall be in force as a contract and shall continue as such until cancelled by written notice, 15 days in advance, given by the applicant to the Authority.

l. That the Authority has the right to discontinue or disconnect said service pipe and terminate the application, upon written notice, given 15 days in advance by the Authority to the applicant, for failure to pay any bill when due or fur any violation of any of the terms and conditions of this application, or for any violation of its rules; and, in

emergencies, also has the right, without notice, to shut off all or any part of its facilities and discontinue to service when deemed necessary by the Authority for the purpose of making any repairs, alterations, additions, or to prevent possible contamination through cross-connected facilities of the applicant or to prevent negligent or willful waste of water through the facilities of the applicant.

128. METER REQUIREMENTS – PRIVATE FIRE SERVICE CONNECTIONS - Meters and/or detector check valves may or may not be installed on connections providing service for fire protection, subject to the determination of need by the Authority, such connections to be used exclusively for fire service. Water used for extinguishing fires shall be subject to no charge, provided that notice is given the Authority after such use so that the meter may be read promptly. Such fire service shall be subject to the rates established for Private Fire Service.

If the customer is found in violation of the rules and regulations controlling such service, in such instances where a detector check or equal installation was not required by the Authority, the Authority exercises the right to discontinue such service or, at its option, to install a fire meter and small bypass meter, the cost of such meters, all piping, vales, fittings, and appurtenances relative thereto, and the structure for housing the meters, to be paid for by the customer. The size of the meters, not to exceed the diameter of the main supplying the service, shall be stipulated by the customer.

The metered water used in connection with this type of service shall be paid for in accordance with the regular metered rates for Private Fire Protection Service, subject to the applicable minimum meter charge and other water charges.

The Authority also reserves the right, where water is used through a special connection other than fire protection purposes, to cancel the contract and shut off the supply; or at its option, to replace the fire meter, if used, with a general service type meter of equal inch size, the customer to pay all costs in connection therewith and as set forth with respect to the fire meters.

The customer shall pay, under this agreement, for all water used, in accordance with the regular schedule of service and consumption charges for General Service, except as noted above.

129. GENERAL CONDITIONS – PRIVATE FIRE HYDRANTS – The private fire hydrant or fire hydrants installed on a separate fire service main, subject to all the foregoing requirements, will be subject to flat charges set forth under Flat Rates – Private Fire Service, subject to a special contract and to the rules and regulations controlling such service.

When a special contract is entered into by the Authority with a private party for a private fire hydrant which is to be located in a public street or thoroughfare, said hydrant, with service connection, will be installed at the expense of the applicant.

When a hydrant is to be located wit hi the hard of the customer's premises, the entire installation, from the street main to and including the hydrant, shall be installed at the expense of the customer.

Such connections, where allowed, are to be used solely for the extinguishment of fire and for no other purpose, except upon the written consent of the Authority; and any violation of this provision shall be cause for the cancellation of the contract and discontinuance of the service.

The listed rate for each private fire hydrant shall apply regardless of whether the installation is made by the Authority or at the expense of the customer.

130. COST OF FIRE SERVICE CONNECTION – All service connections for flat rate fire service, also those for metered fire service, which are specified to be at the expense of the customer, shall be installed by the Authority and the customer will be charged with the exact cost of labor and materials used in the work, with an addition of 15 percent to cover the costs of supervision, use of tools, etc., plus such other applicable fees.

SECTION XI – RESPONSIBILITY FOR FIRE SERVICE

131. RESPONSIBILITY FOR SERVICE – It is agreed by the parties receiving public fire service, private fire service, or any other service, that the Authority does not assume any liability for injury of persons or property and that the agreement does not guarantee any special service, pressure, capacity, or facility other than is permitted by the ordinary and changing operating conditions of the Authority, as the same exist from day to day. It is agreed by the parties receiving service that the Authority shall be free and exempt from any and all claims for injury to any persons or property by reason of fire, water, failure to supply water pressure or capacity.

SECTION XII – BILLS AND PAYMENT

132. PLACE OF PAYMENT – All bills are payable at any office or any pay agency as designated by the Authority.

133. BASIS FOR PREPARATION OF BILLS FOR WATER SERVICE – All bills for services furnished by the Authority will be based on the published Rate Schedule of the Authority. All bills shall be rendered and are due and payable monthly or quarterly, or such other period, at the option of the Authority.

Each premises will be subjected to a fixed minimum monthly or quarterly charge for each meter, based on the size of the meter and in accordance with the Rate Schedule, the use of certain quantities of water being allowed for each size meter without additional charge. Such minimum charge shall be nonabatable for a nonuser of water, and noncumulative against subsequent consumption. In the case of fractional bills covering less than a month or a quarter, monthly or minimum charges and allowances of water shall be prorated. The charges for the use of water in excess of the quantities allowed for each size meter will be in accordance with the section Meter Quantity Charges, as set forth in the Rate Schedule, the allowances of water for the minimum charges to be deducted from the quantities set forth in applying the meter schedule.

The charge for water service in all cases where more than one premises is served through one meter or one meter installation (a meter installation being defined as an installation including two or more meters placed at one or more locations for the purpose of serving one or more premises in a building or a related group of buildings, in a facility or related group of facilities, in an area or a related group of areas, and in such other properties; to furnish adequate capacity, to permit more accurate measurement of water, due to the physical layout of the property, and for such other reasons), shall be subject to a minimum charge for each premises served through the one meter or meter installation based on the size meter that would be required to serve each individual premises. The charge shall be determined as follows:

a. The average use of water for each billing period for each premises shall be equal to the total number of gallons of water registered by the meter or meter installation divided by the number of premises. The customer or customers shall notify the Authority promptly relative to

any changes in the number of premises, the number at any time always being subject to determination by the Authority. The potential number of premises in any building or group of buildings, and the charges therefore, are subject to determination by the Authority prior to the original approval by the Authority to furnish water services, and are subject to determination subsequent to any alterations, additions, or changes in the building or group of buildings.

b. The average use of water for each billing period for each premises as determined under the foregoing item shall provide the basis for billing; and the amount of the charge for each premises shall be computed on the basis of a 5/8-inch meter installation, as set forth in the Rate Schedule governing water service, the minimum charge and allowance in gallons for a 5/8-inch meter to apply, and the total charge for each premises to be the minimum charge, plus charges for all water in excess of the allowance in gallons in accordance with the Rate Schedule, the excess to be the average use in gallons as determined under (a) minus the quantity allowed for the size of meter. If it be determined that meters larger than 5/8-inch in size would be necessary if each premises were provided with individual service, the charges for each premises will be based on the larger meters.

c. The total charge for the water service shall be equal to the average charge for each premises multiplied by the number of premises, determined as previously set forth, and the total charge shall be submitted to the customer or customers as the proper charge for water service furnished to the type of building and/or buildings included hereunder.

d. This regulation shall apply regardless of whether a business may be owned by a customer also receiving household water service through the same meter or the two or more premises are located in one building or in different buildings, the ownership of the property or business not being significant.

e. Should the owner desire that the Authority conduct business directly with the tenant of each premises, he must first provide means of controlling the supply and housing of the meter or meters for each premises, and/or provide means of billing and collecting the water charges therefore.

The charges for public fire service shall be paid annually.

The charges for private fire service shall be paid quarterly, prorated from the per annum charges.

The charges for temporary service and other miscellaneous services shall be as set forth elsewhere herein and/or in the Rate Schedule.

134. BASIS FOR PREPARATION OF BILLS FOR SEWER SERVICE – All bills for sewage services furnished by the Authority will be based on the published rate schedule of the Authority; the charges to be based on the quantity of water used on or in said premises, as the same may be measured by meters in use or other meters to be installed, or based on the number and type of fixtures, as indicated for the respective areas.

Each premises will be subject to a fixed minimum monthly or quarterly charge. Such minimum charge shall be nonabatable for nonuser of water, and noncumulative against subsequent use. In the case of fractional bills covering less than a month or a quarter, monthly or minimum charges and allowances of water shall be prorated. The charges for the use of water in excess of the quantities allowed under the minimum charges will be in accordance with the Rate Schedule; the allowance of water for the minimum charges to be deducted from the quantities set forth in applying the schedule.

The charge for sewage service in all cases where water use is the basis of charges and more than one premises is served through one building connection shall be determined as follows:

a. The average use of water for each billing period for each premises shall be equal to the total number of gallons of water registered by the meter or meter installation divided by the number of premises. The customer or customers shall notify the Authority promptly relative to any changes in the number of premises, the n umber at any time always being subject to determination by the Authority. The potential number of premises in any building or group of buildings and the charges therefore are subject to determination by the Authority prior to the original approval by the Authority to furnish sewage services and are subject to the determination subsequent to any alterations, additions, or changes in the building or group of buildings.

b. The average use of water for each billing period for each premises, as determined under the foregoing item, shall provide the basis of charge for each premises.

c. The total charge for the sewage service shall be equal to the average charge for each premises multiplied by the number of premises, determined as previously set forth, and the total charge shall be submitted to the customer or customers as the proper charge for sewage service furnished to the type of building and/or buildings included hereunder.

d. This regulation shall apply regardless of whether a business may be owned by a customer also receiving service through the same building connection, or the two or more premises are located in one building or different buildings; the ownership of the property or business not being significant.

e. The charges for temporary sewage service and other miscellaneous services shall be as set forth elsewhere herein and/or in the Rate Schedule.

134.1 SURCHARGE FOR CERTAIN INDUSTRIAL WASTES – The Authority will exercise the right to levy and assess against applicable premises a surcharge, or surcharges, for the handling and treatment of abnormal industrial, commercial, and other such wastes. The surcharge represents an apportionment of the cost for handling an excess load imposed on the sewage treatment plant by wastes stronger than normal sewage and of the additional costs of maintaining and operating the public sewerage system. The basis of such charges shall be as set forth in the Schedule of Rates.

The surcharges will be added to the normal sewage service charge and shall be subject to the same penalties applicable to other charges.

The strength of wastes subject to a surcharge or surcharges shall be determined periodically by the Authority. The frequency and duration of the sampling period shall be subject to determination by the Authority and shall be such as will permit reaching reasonably reliable conclusions as to the average composition of such wastes, exclusive

of storm water runoff, if any. The manholes or other facilities required for sampling shall be constructed at the cost of the owner and/or tenant and shall be constructed as previously set forth.

The samples will be collected by a representative of the Authority; such samples to be collected in proportion to the flow of wastes, exclusive of storm water runoff, if any, and to be sent to an independent laboratory for analysis. The procedures and analysis will be in accordance with the latest edition of Standard Methods for Examination of Water and Sewage, as published by the American Public Health Association.

The characteristics and strength of the wastes, as determined by analyses, shall be used to determine the applicability of the surcharge or charges, and used as basis for establishing the amount of the surcharge or surcharges. The Authority exercises the right to assess the costs of conducting flow measurements and making the chemical and other tests, against the owner and/or tenant of the premises.

The Authority may, at its option, accept the results of routine sampling and analyses by the producer of said wastes.

All nonresidential units that discharge excess strength sewage waste into the sanitary sewers shall be subject to the following surcharges:

a. When required by the Authority, any person discharging to the public sanitary sewage system any industrial wastes or industrial wastes and sanitary sewage together, shall install a suitable manhole or manholes or metering chamber on his connecting sewer or sewers to facilitate observation, sampling, and measurements of the combined flow of wastes from his premises. Such manhole or manholes or metering chamber shall be accessible and safely located and shall be constructed in accordance with plans approved by the Authority.

b. Any discharge having an average 5-day biochemical oxygen demand (BOD5) greater than 300 milligrams per liter (mg/L) may be subject to a surcharge equal to 1/10 of 1 percent of the quarterly charges as computed on the quarterly bill for each mg/L by which that BOD5 exceeds the 300 mg/L BOD5. The strength shall be

determined once each year by sampling and analysis of the discharge using a grab sample regardless of hours of operation. The normal testing period will be between 8:00 am and 3:00 pm. All analysis shall be made in accordance with procedures outlined in the latest edition of 59 Standards Methods for Examination of Water and Wastewater published by the American Health Association. A charge in an amount set and amended from time to time by the Board of Directors shall be applied to the customer's account at the time of sampling to cover the cost of laboratory testing and labor.

If the customer questions the results of the analyses, a written request for a retest and the reason for the request may be submitted. The Authority will make a decision on the validity of the reason for the request. If the request is granted, the customer will bear all costs associated with the retest. Retests shall not be considered until all sites have been tested.

c. Any discharge having suspended solids content greater than 350 mg/L may be subject to a surcharge equal to 1/10 of 1 percent of the quarterly charges for each mg/L by which the suspended solids exceed the 350 mg/L limit. Sampling and analysis will be conducted as described in (b) above.

d. Any discharge having a concentration of oil, grease, or fat in excess of 25 mg/L, and capped at a concentration reading of 1000 mg/L, shall be subject to a surcharge equal to 1 percent of the quarterly charge for each milligram per liter that exceed the above stated limits for each parameter. Sampling and analysis will be conducted as described in sub-paragraph (b).

The Municipal Authority of the Township of Robinson reserves the right to exercise any and all of the above surcharges at its sole discretion and/or pass through to the customer any additional surcharge imposed by other authorities, municipalities, or agencies.

(Adopted August 10, 2022 – Resolution 5 of 2020)

135. MINIMUM CHARGES FOR INACTIVE SEWAGE SERVICE – A minimum charge, as set forth in the Schedule of Rates and Charges, will be

made against all vacant premises that are provided with a sewer line service connection; and, further, minimum charges will be made against all premises that abut on Authority sewerage facilities, whether or not such premises are connected to the utility systems and whether vacant or occupied; all as applicable, said premises being feasible to be connected to said facilities; all such charges against the properties to be made alien thereon, to be liened and collected against the property in the name of the owner, reported owner, occupier, mortgagee, or anyone beneficially interested therein, as claims are liened and collected under the Municipal Claims Law of the Commonwealth of Pennsylvania.

The principle of Multiple Billing or Unit Charge shall apply also in cases of inactive service where multiple premises are involved, as previously outlined.

136. BILLS RENDERED ARE DUE – The Authority will make regular meter readings either monthly or quarterly, at its option, and bills will be rendered as soon as practicable after the reading of the respective meters.

All bills are due and payable within thirty (30) days after the due date as set forth on the bill ("Due Date"). Payment of the bill after the Due Date will result in such penalty being added to the bill as is currently in effect. In addition, interest shall accrue on the balance due from the Due Date to the date of payment at a rate of ten percent (10%) per year or at the highest rate permitted by law.

The Authority may mail or deliver the bills and notices to the customer at the address given in the application for service, and the Authority shall not be responsible for the delivery thereof. Failure to receive bills is not an excuse for nonpayment.

Any check received by the Authority in payment of any bill due the Authority, which check is returned unpaid by the drawee bank for any reason, shall be charged against the account involved and, in addition, charges shall be made against said account for cost of handling, for each call for collection and for any other costs involved, such charges to be as currently in effect.

137. ENFORCEMENT OF UNPAID WATER AND SEWER CHARGES – Except as otherwise provided in Rule 140, if any owner or occupant of

premises neglects or fails to pay any rental rate or charge for sewer, sewage treatment service, or water (hereinafter collectively referred to as "service") within thirty (30) days of due date, the following procedure shall be followed:

a. Act 1 Letter – On the fifteenth (15th) day after the Due Date, the Authority shall mail or deliver to any customer whose bill has not been paid by the Due Date, a letter pursuant to the Act of February 7, 1996, P.L. 1, No. 1, § 1, 53 P.S. § 7106 ("Act 1 Letter"). The Act 1 Letter shall be in the form prepared by the Solicitor.

The Act 1 Letter must be mailed by United States certified mail, return receipt requested, postage prepaid.

Effective November 1, 2001, and thereafter, 125 percent of the cost to the Authority of the certified mailing shall be added to the customer's bill to cover the Authority's costs of certified postage and handling involved in the preparation and mailing of the Act 1 Letter.

In the event the delinquent customer's bill is not paid within thirty (30) days of the date of mailing the Act 1 Letter, the Authority shall undertake the two following procedures:

b. Judicial Enforcement

(i) The Authority shall immediately deliver to the Solicitor:

aa. a copy of the Act 1 Letter sent to the delinquent customer;
bb. the executed return receipt or a statement that the certified mail was refused, unclaimed, or that no return receipt was received; and
cc. the total amount due the Authority.

(ii) Solicitor shall immediately file a municipal claim against the real estate to which water and/or sewer service has been provided but for which payment was not made. (NOTE: Where the Authority informs the Solicitor that the certified mailing of the Act 1 Letter was refused, unclaimed, or that no return receipt was received, the Solicitor, on behalf of the

Authority, shall mail another Act 1 Letter to the delinquent customer by the United States first class mail. In that event, the municipal claim shall not be filed until ten (10) days after this mailing.)

(iii) The Solicitor shall file a civil action against the delinquent customer upon motion duly passed by the Board of Directors or upon the establishment of a policy for such actions by the Board of Directors.

c. Termination of Service.

(i) Termination.

aa. At least ten (10) days prior to terminating service, the Authority shall mail to the delinquent customer by first class mail and also post the main entrance to the customer's premises with a notice in substantially the following form:

NOTICE OF INTENTION
TO TERMINATE WATER SERVICE

PLEASE TAKE NOTICE THAT THE MUNICIPAL AUTHORITY OF THE TOWNSHIP OF ROBINSON WILL TERMINATE YOUR WATER SERVICE BECAUSE THE AUTHORITY ALLEGES THAT YOU HAVE FAILED TO PAY YOUR WATER/SEWER BILLS IN THE AMOUNT OF $_____. SERVICE WILL BE TERMINATED AFTER TEN (10) DAYS FROM THE DATE THIS NOTICE WAS POSTED ON YOUR PREMISES UNLESS YOU PAY THE AMOUNT OWNED, PLUS A SERVICE CHARGE OF $ _____ OR UNLESS YOU TAKE SUCH ACTION AS IS PROVIDED BY LAW.

bb. The service charge shall be fixed by the Board and set forth in the Schedule of Rates and Charges.

(ii) Reinstatement of Service.

aa. Service shall be reinstated upon payment by the customer of all unpaid charges, including service charges.

bb. When a customer's service has been terminated pursuant to this Rule, a fee fixed by the Board and set forth in the Schedule of Rates and Charges shall be charges for reinstating water service.

(iii) Deposit Prior to Reinstatement of Service. When a customer's service has been terminated pursuant to this Rule, a deposit in an amount double the customer's average monthly charge based on the previous twelve (12) month bills shall be paid to and held by the Authority as security against future charges.

137-A. BANKRUPTCY – Upon receipt of a Petition in Bankruptcy, the Petition shall immediately be referred to the Solicitor by management.

The bankrupt's account shall be closed effective the date of filing the Petition in Bankruptcy ("Bankruptcy Date") and the amount owed the Authority as of that date shall be provided to the Solicitor. A new account shall be opened for the bankrupt customer beginning the day after the bankruptcy date. The new account shall not include any amounts owed the Authority on or before the Bankruptcy Date.

138. REPAYMENT AGREEMENT IN LIEU OF TERMINATION – When a customer contacts the Authority regarding a delinquent bill, all attempts should be made to negotiate a repayment schedule which is acceptable to both parties. While rigid standards with respect to such things as initial minimum lump sum payment shall not be required, factors which shall be considered in any repayment agreement should include the size of the delinquent bill and the customer's ability to pay. A repayment agreement can last; up to three months from the date of such agreement.

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140. TERMINATION PROCEDURES FOR MULTI-TENANT BUILDINGS AND TRAILER COURTS OR MOBILE HOME PARKS DUE TO A DELINQUENT BILL OF A LANDLORD RATE PAYER -

a. Pursuant to the Utility Service Tenants Rights, Act No. 299 of 1978, effective November 26, 1978, in any multi-family building, trailer court, or mobile home park wherein the landlord rate payer is the sole individual responsible for the bill, the Authority shall not terminate service until it has complied with the requirements of this Rule.

b. Definitions – The following words and phrases when used in this Rule shall have, unless the context clearly indicates otherwise, the meanings given to them in this section:

Landlord ratepayer – One or more individuals or an organization listed on the Authority's records as the party responsible for payment of service provided to one or more residential units of a residential building or mobile home park of which building or mobile home park such party is not the sole occupant.

Mobile home – A transportable, single-family dwelling unit intended for permanent occupancy and constructed as a single unit, or as two or more units designed to be joined into one integral unit capable of again being separated for repeated towing which arrives at a site complete and ready for occupancy except for minor and incidental unpacking and assembly operations and constructed so that it may be used without a permanent foundation.

Mobile Home Park – Any site, lot, field, or tract of land, privately or publicly owned or operated, upon which three or more mobile homes, occupied for dwelling or sleeping purposes, are or are intended to be located.

Residential Building – A building containing one or more dwelling units occupied by one or more tenants, but excluding nursing homes, hotels and motels.

Tenant – Any person or group of persons whose dwelling unit in a residential building or mobile home park is provided service, pursuant to a rental agreement for such dwelling unit, mobile home, or lot of ground within a mobile home park, but who is not the ratepayer or customer of the Authority which supplied such service.

c. Notices Before Service to Landlord Ratepayer Can Be Discontinued –

(1) Except when required to prevent or alleviate an emergency or except in the case of danger to life or property, before any discontinuance of service within the Authority's limits, to a landlord ratepayer for nonpayment, the Authority shall:

(aa) Notify the landlord ratepayer of the proposed discontinuance in writing as prescribed in Section e. at least 37 days before the date of discontinuance of service.

(bb) Notify the Allegheny County Health Department in writing at the time of delivery of notice to the tenants of the proposed discontinuance of service:

(cc) Notify each residential unit reasonably likely to be occupied by an affected tenant of the proposed discontinuance in writing as prescribed in paragraph f. at least seven days after notice to the landlord ratepayer as set forth above and at least 30 days before any such discontinuance of service. However, if within seven days of receipt of then notice issued pursuant to this paragraph the landlord ratepayer files a petition with the court disputing the right of the Authority to discontinue service, such notice shall not be rendered until such petition has been adjudicated by the court.

(2) Before any discontinuance of service by the Authority to a landlord ratepayer due to a request for voluntary relinquishment of service by the landlord ratepayer:

(aa) the landlord ratepayer shall state in a form bearing his notarized signature that all of the affected dwelling units are either unoccupied or the tenants affected by the proposed discontinuance have consented in writing to the proposed discontinuance, which form shall conspicuously bear a notice that false statements are punishable criminally;

(bb) all of the tenants affected by the proposed discontinuance shall inform the Authority orally or in writing of their consent to the discontinuance; or

(cc) the landlord ratepayer shall provide the Authority with the names and addresses of the affected tenants pursuant to paragraph d. and the Authority shall notify the community service agency referenced in subsection c.(i)(bb) above and each residential unit pursuant to this Section and Section f. Under the voluntary relinquishment discontinuance procedures of this subparagraph, the tenants shall have all of the rights provided in Sections g. and h.

d. Identifying Tenants

(1) Upon receiving a lawful request for the names and addresses of the affected tenants pursuant to this Rule, it shall be the duty of the landlord ratepayer to provide the Authority with the names and addresses of every affected tenant of any building or mobile home park for which the Authority is proposing to discontinue service unless within seven (7) days of receipt of the notice, the landlord ratepayer pays the amount due the Authority or makes an arrangement with the Authority to pay the balance.

(2) Such information shall be provided by the landlord ratepayer:

(aa) within seven (7) days of receipt of the notice to the landlord ratepayer required by section c. of this Rule; or

(bb) within three (3) days of any adjudication by a court having jurisdiction that the landlord ratepayer must provide the requested information if the landlord files a petition with the court within seven (7) days of receipt of notice to the landlord disputing the right of the Authority to discontinue service.

(3) It shall be the duty of the Authority to pursue any appropriate legal remedy it has, necessary to obtain from the landlord ratepayer, the names and addresses of all of the affected tenants of a building or mobile home park for which

the Authority is proposing discontinuance of service to such landlord ratepayer.

e. Delivery and Contents of Discontinuance Notice to Landlord Ratepayer.

(1) The notice required to be given to a landlord ratepayer pursuant to section c. of this Rule shall contain the following information:

(aa) the amount owed the Authority by the landlord ratepayer for each affected account;

(bb) the date on or after which service will be discontinued;

(cc) the date on or after which the Authority will notify tenants of the proposed discontinuance of service and of their rights under section g. of this Rule;

(dd) the obligation of the landlord ratepayer under section d. of this Rule to provide the Authority with the names and addresses of every affected tenant or to pay the amount due the Authority or make an arrangement with the Authority to pay the balance including a statement:

(i) that such list must be provided or payment or arrangement must be made within seven days of receipt of the notice; and

(ii) of the penalties and liability which the landlord ratepayer may incur pursuant to section 18 of the Utility Service Tenants Rights Act as follows:

(aaa) any landlord ratepayer who fails to provide the Authority with the names and addresses of affected tenants pursuant to Section 4 of the Utility Service Tenants Rights Act shall forfeit and pay to the Commonwealth of Pennsylvania a civil penalty of not more than $500 for each day of the landlord ratepayer's failure to respond. The court, in its

discretion, may award the Authority reasonable attorney's fees, for any action against the landlord ratepayer which was necessary to obtain the names of affected tenants pursuant to said Section d.

(bbb) any person, who removes, interferes, or tampers with a notice to tenants of proposed discontinuance of service, posted pursuant to Section f shall be guilty of a violation of the Utility Service Tenants Rights Act and shall be punished by a fine not to exceed $25.00.

(ee) The right of the landlord ratepayer to stay the notification of tenants by filing a petition with the court disputing the right of the Authority to discontinue service.

(2) Any one of the following procedures shall continue effective notice to the landlord under Section c. of this Rule:

(i) Notice by certified mail if the Authority receives a return receipt signed by the landlord ratepayer or his agent.

(ii) Notice by personal service of the landlord ratepayer or his agent.

(iii) After unsuccessful attempts at personal service on two separate days, notice by first class mail and conspicuously posting at the landlord ratepayer's principal place of business or the business address which the landlord provided the Authority as his address for receiving communications.

f. Delivery and Contents of First Discontinuance Notice to Tenants

(1) The notice required to be given to a tenant pursuant to this Section c. of this Rule shall be mailed or otherwise delivered to the address of each affected tenant, and shall contain the following information:

(aa) the date on which the notice is rendered;

(bb) the date on or after which service will be discontinued;

(cc) the circumstances under which service to the affected tenant may be continued, specifically referring to the conditions set out in Section g. of this Rule;

(dd) the bill for the 30-day period preceding the notice to the tenants;

(ee) the statutory rights of a tenant to deduct the amount of any direct payment to the Authority from any rent payments then or thereafter due; to be protected against any retaliation by the landlord for exercising such statutory right; to recover money damages from the landlord for any such retaliation;

(ff) that tenants may make payment to the Authority on account of nonpayment by the landlord ratepayer only by check or money order drawn by the tenant to the order of the Authority; and

(gg) a telephone number at the Authority which a tenant may call for an explanation of his rights.

(2) The information in subparagraphs (aa) through (gg) above shall be posted by the Authority in those common areas of the building or mobile home park where it is reasonably likely to be seen by the affected tenants. Any officer or employee of the Authority may at any reasonable time, enter the common hallways and common areas of such building for the purpose of complying with the provisions of this Section.

g. Rights of Tenants to Continue Service

(1) At any time before or after service within the Authority's service area is discontinued by the Authority on account of nonpayment by the landlord ratepayer, the affected tenants ay apply to the Authority to have service continued or resumed. The Authority shall not discontinue such service or shall promptly resume service previously discontinued if it receives from the tenants an amount equal to the bill of the landlord

ratepayer for the 30-day period preceding the notice to the tenants. Thereafter, the Authority shall notify each tenant of the total amount of the bill for the second and each succeeding period of 30 days or less and if the tenant fails to make payment of any such bill within 30 days of the delivery of the notice to the tenants, the Authority may commence discontinuance procedures; provided, that no such discontinuance may occur until 30 days after each tenant has received written notice of the proposed discontinuance as prescribed in Section h. of this Rule. All payments by tenants to the Authority on account of nonpayment by the landlord ratepayer shall be made by check or money order drawn by the tenant to the order of the Authority. Upon receiving any such payment, the Authority shall notify the landlord ratepayer who is liable for the water service of the amount or amounts paid by any tenant and the amount or amounts credited to the landlord's bill for each tenant pursuant to the provisions of this paragraph. In the event that the tenants fail to satisfy the requirements of this paragraph to maintain or restore service and service to the affected dwelling units is discontinued, the Authority shall refund to each tenant the amount paid by such tenant toward the bill which the tenants failed to pay, upon the request of the tenant or after holding the tenant's payment during 60 consecutive days of discontinued service, whichever occurs first.

(2) Any tenant of a residential building or mobile home park who has been notified of a proposed discontinuance of service pursuant to section c. of this Rule shall have the right to agree to subscribe for future service individually if this can be accomplished without a major revision of distribution facilities or additional right-of-way acquisitions.

h. Delivery and Contents of Subsequent Discontinuance Notices to Tenants

Subsequent notices required to be given to a tenant pursuant to Section g. of this Rule shall be mailed or otherwise delivered to the address of each affected tenant and shall contain the following information:

(1) the date on or after which service will be discontinued;

(2) the amount due, which shall include the arrearage on any earlier bill due from tenants;

(3) a telephone number at the Authority which is a tenant may call for an explanation of his rights; and

(4) the right of a tenant to file a petition with the court to enforce any legal right he may have.

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143. ABATEMENT: Customers desiring an abatement from water bills due to vacancies shall give written notice at the office of the Authority requesting the water to be shut off. Abatement will be made of a portion of the charges in the proportion that the period when water has been shut off bears to the entire period. No adjustments on meter bills will be made for any reason other than incorrect registering of meter. No adjustment shall be made on meter bills for leaks or for water wasted or damaged or defective fixtures or plumbing and/or such other causes.

SECTION XIII - CROSS CONNECTIONS AND INTERCONNECTIONS

144. The Rules and Regulations governing cross connections are as follows:

Section 1:	1:01	Definitions
	1:02	Purpose
	1:03	Backflow Prevention Assembly Requirements
	1:04	Wholesale Customers
	1:05	Irrigation Systems
	1:06	Temporary Meters
	1:07	Fire Systems
	1:08	Mobile Units
	1:09	Multiple Service Connections
	1:10	Plumbing Code
	1:11	Thermal Expansion
	1:12	Pressure Loss
	1:13	Residential Service Connections
	1:14	Retrofitting
Section 2	2:01	Customer Service Inspection
Section 3	3:01	Backflow Prevention Assembly Testers
Section 4	4:01	Backflow Prevention Assemblies
	4:02	Type of Protection Required
	4:03	Installation
	4:04	Testing and Maintenance
Section 5	5:01	Responsibilities of Owners and Renters
Section 6	6:01	Access to Premises
Section 7	7:01	Right-of-Way Encroachment
Section 8	8:01	Cost of Compliance
Section 9	9:01	Enforcement and Penalties
	9:02	Emergency Suspension of Utility Service
	9:03	Non-Emergency Termination of Water Supply

SECTION 1

1:01 DEFINITIONS: For the purpose of these Rules and Regulations, the following definitions shall apply unless the context clearly indicates or requires a different meaning. If a word or term used in these Rules and Regulations is not contained in the following list, its definition or other technical terms used, shall have the meanings or definitions listed in "The Municipal Authority of the Township of Robinson Rules and Regulations Governing Water and Sewer Service" or in the most recent edition of the *Manual of Cross Connection Control* published by the Foundation for Cross Connection Control and Hydraulic research, University of Southern California.

(1) "Air gap" means the vertical unobstructed physical separation between the free-flowing discharge end of the potable water supply line and the overflow rim of the receiving vessel. The separation must be at least twice the inside diameter of the supply line, but never less than one inch. When located near walls, the air gap separation must be increased.

(2) "Approved backflow prevention assembly" or "backflow assembly" or "assembly" means an assembly to counteract backpressures or prevent back siphonage. This assembly must appear on the list of approved assemblies issued by USC Foundation for Cross-Connection Control and Hydraulic Research or American Society of Sanitary Engineering (ASSE).

(3) "Atmospheric vacuum breaker" means a device that contains a float check (poppet), a check seat, and an air inlet vent. When water pressure is reduced to a gauge pressure of zero or below, air enters the device, preventing back siphonage. It is designed to protect against back siphonage only.

(4) "Auxiliary supply" means any water source or system other than the public water system that may be available in the building or on the property.

(a) Approved – An auxiliary water supply which has been investigated and approved by the health authority, meets water quality regulations, and is accepted by the water purveyor.

(b) Unapproved - An auxiliary water supply that is not approved by the health authority.

(5) "Backflow" means the flow in the direction opposite to the normal flow or the introduction of any foreign liquids, gases, or substances into the water system of the Authority's water.

(6) "Backflow prevention assembly tester" shall mean a person who has met all of the requirements of the Authority to be recognized as a certified tester and is registered with the Operations Manager

(7) "Backpressure" means a pressure caused by a pump, elevated tank or piping, boiler, or other means that are greater than the pressure provided by the public water system and which may cause backflow.

(8) "Back siphonage" shall mean the backflow due to a reduction in system pressure in the purveyor's distribution system and/or customer's water system.

(9) "Boresight" or "boresight to daylight" means providing adequate drainage for backflow prevention assemblies installed in vaults through the use of an unobstructed drainpipe.

(10) "Combination Protection" means there is an assembly installed for point-of-use violation in addition to a premise isolation assembly.

(11) "Customer's Water System" mans any water system located on the customer's premises, supplied by or in any manner connected to a public water system. A household plumbing system is considered to be a customer's water system.

(12) "Containment" means cross connection control that isolates the customer's entire facility from the public water supply system, so as to provide the protection necessary to prevent contamination of the public water supply in the event of backflow from the customer's facility. Though containment control prevents contamination of the public water supply, it offers no protection to the water distribution system within the facility.

(13) “Contamination” means the entry into or presence in a public water supply system of any substance which may be deleterious to health and/or quality of the water.

(14) “Cross connection” means any physical arrangement where a potable water supply is connected, directly or indirectly (actual or potential), with any other non-potable water system, used water system, or auxiliary water supply, sewer, drain conduit, swimming pool, storage reservoir, plumbing fixture, swamp coolers, air conditioner units, fire protection system, or any other assembly which contains or main contain contaminated water, sewage, or other liquid of unknown or unsafe quality which may be capable of imparting contamination to the public water system as a result of backflow. Bypass arrangements, jumper connections, removable sections swivel or change over arrangements, or other temporary or permanent arrangements through which, or because of which, backflow may occur are considered to be cross connections.

(15) “Degree of hazard” means the low or high hazard classification that shall be attached to all actual or potential cross connections.

(16) “Double check detector assembly” or “DCDA” means and approved assembly consisting of two approved double check valve assemblies, set in parallel, equipped with a meter on the bypass line to detect small amounts of water leakage or use. This unit must be purchased as a complete assembly. The assembly may be allowed on fire line water services in place of an approved double check valve assembly upon approval by the local water authority.

(17) “Double check valve backflow prevention assembly” or “double check assembly” or “double check” or “DC assembly”, or “DC” means an assembly which consists of two (2) independently operating check valves which are spring-loaded or weighted. The assembly comes complete with a gate valve on each side of the checks, as well as test cocks to test the checks for tightness. This assembly is designed to protect against low hazard backpressure and back siphonage.

(18) “Health hazard” means an actual or potential threat of contamination of a physical or toxic nature to the public potable water system or the

customer's potable water system that would be a danger to health.

(19) "High hazard" means the classification assigned to an actual or potential cross connection that potentially could allow a substance that may cause illness or death to backflow into the potable water supply.

(20) "Inspector" means a person that is a cross connection inspector recognized by the Authority.

(21) "Low hazard" means the classification assigned to an actual or potential cross connection that potentially could allow a substance that may be objectionable but not hazardous to one's health to backflow into the potable water supply.

(22) "Authority Cross Connection Control Inspector" means an Authority Representative who will perform site inspections and field meetings.

(23) "Mobile Units" shall mean units connecting to the water system through a hydrant, hose bibb, or other appurtenance of a permanent nature that is part of the Authority's Public Water System or a permanent water service to a premise. Examples can include but are not limited to the following: water trucks, pesticide applicator vehicles, chemical mixing units or tanks, waste or septic hauler trucks or units, sewer cleaning equipment, carpet or steam cleaning equipment, rock quarry or asphalt/concrete batch plants, or any other mobile equipment or vessel. Uses that are excluded from this definition are recreation vehicles at assigned sites or parked in accordance with other resolutions pertaining to recreational vehicles, and homeowner devices that are used by the property owner in accordance with other provisions of this, or other, Authority resolutions pertaining to provision of water service to a premise.

(24) "Non-Potable Water" means water not safe for drinking, personal, or culinary use.

(25) "Operations Manager" means the person responsible or the Authority's designee for the implementation of the cross-connection control program for the Authority.

(26) "Plumbing Code" means the most recent addition of the Allegheny

County Health Department Plumbing Code as amended, and these Rules and Regulations.

(27) "Plumbing hazard" means an internal or plumbing-type cross-connection in a customer's potable water system that may be either a pollutional or a contamination-type hazard.

(28) "Point-of-use isolation" means the appropriate backflow prevention within the customer's water system at the point at which the actual or potential cross connection exists.

(29) "Pollutional hazard" means an actual or potential threat to the physical properties of the water system or the potability of the public or the customer's potable water system but which would not constitute a health or system hazard, as defined. The maximum degree of intensity of pollution to which the potable water system could be degraded under this definition would cause a nuisance, or be aesthetically objectionable, or could cause minor damage to the system or its appurtenances.

(30) "Potable water supply" means any water that has been tested as required by the state regulations for drinking water supplies and is considered safe for human consumption.

(31) "Premises isolation or containment" means the appropriate backflow prevention at the service connection between the public water system and the water user.

(32) "Pressure vacuum breaker assembly" means an approved assembly consisting of a spring-loaded check valve loaded to the closed position, an independently operating air inlet valve spring-loaded to the open position and installed as a unit with and between two resilient seated shutoff valves and with suitable connections for testing. It is designed to protect against back siphonage only.

(33) "Reduced pressure principle backflow prevention assembly" or "reduced pressure principle assembly" or "RP assembly" or "RP" shall mean an assembly containing two independently acting approved check valves together with a hydraulically operated, mechanically independent pressure differential relief valve located between the

check valves and at the same time below the first check valve. The assembly shall include properly located test cocks and tightly closing shutoff valves at each end of the assembly. This assembly is designed to prevent back siphonage and backpressure backflow.

(34) "Reduced pressure detector assembly" or "RPDA" shall mean an approved assembly consisting of two approved reduced pressure backflow assemblies, set in parallel, equipped with a meter on the bypass line to detect small amounts of water leakage or use. This unit must be purchased as a complete assembly. The assembly may be allowed on fire line water services in place of an approved reduced pressure backflow assembly, upon approval by the local water purveyor.

(35) "Residential use" may include single family dwellings (duplexes, multiplex housing, and apartments where the individual units are each on a separate meter; or, in cases where two or more units are served by one meter). Each of the above will be assessed on a case-by-case basis.

(a) "Non-residential use" shall include, but is not limited to, all uses not specifically included in "residential uses" as defined above.

(36) "Service connection" is the point of delivery at which the public water system ends and is connected to the private supply line or lateral.

(37) "SOP" means a Standard Operating Procedure manual on cross connections written specifically for the Authority.

(38) "Spill resistant vacuum breaker" shall mean an assembly containing an independently operating, internally loaded check valve, and an independently operating, loaded air inlet valve, located on the discharge side of the check valve. The assembly is to be equipped with a properly located, resilient, seated test cock; a properly located bleed/vent valve, and a tightly closing, resilient, seated shutoff valve attached at each end of the assembly. This assembly is designed to protect against a non-health hazard (i.e., pollutant), or a health hazard (i.e., contaminant) under a back siphonage condition only.

(39) "System hazard" means an actual or potential threat of severe danger to the physical properties of the public or customer's potable water supply, or of a pollution or contamination that would have a detrimental effect on the quality of the potable water in the system.

(40) "Thermal expansion" means the pressure created in piping, when water is heated.

(41) "Used water" means water supplied by a public water system to a water user's system after it has passed through the service connection.

1:02 PURPOSE: Pursuant to the Allegheny County Department of Health (ACDH) Rules and Regulations Article XC Plumbing Code or most recent edition, the Department of Environmental Protection or most recent edition, it is the responsibility of the Authority to protect its drinking water supply by instituting and enforcing a cross connection program. The purpose of these Rules and Regulations, therefore, is to comply with the above cited regulatory requirements and to protect the water supply of the Authority from contamination or pollution due to cross connections.

1:03 BACKFLOW PREVENTION ASSEMBLY REQUIREMENTS: A cross connection inspector employed by or under contract with the Authority shall determine the type of backflow assembly to be installed within the area serviced by the Authority. All assemblies shall be installed at the service connection unless it is determined by the inspector to install the assembly at the point of use. An assembly will be required in each of the following circumstances, but the inspector is in no way limited to the following circumstances:

(1) When the nature and extent of any activity at a premise, or the materials used in connection with any activity at a premise, or materials stored at a premise, could contaminate or pollute the potable water supply.

(2) When a premise has one or more cross connections as that term is defined in Section 1:01.

(3) When internal cross connections are present that are not correctible.

(4) When intricate plumbing arrangements are present that make it practical to ascertain whether cross connections exist.

(5) When premises have a repeated history of cross connections being established or reestablished.

(6) When materials are being used such that if backflow should occur, a health hazard could result.

(7) When installation of an approved backflow prevention assembly is deemed necessary to accomplish the purpose of these Rules and Regulations.

(8) When an appropriate cross connection survey report form has not been filed with the Operations Manager.

(9) On all new nonresidential construction, an approved backflow assembly shall be installed at the service connection. The type of the assembly will be commensurate with the degree of hazard as determined by an Inspector.

(10) Any used water return system that has received approval from the Operations Manager.

(11) If a point-of-use assembly has not been tested or repaired as required by these Rules and Regulations, the installation of a reduced pressure principle assembly will be required at the service connection.

(12) If the Operations Manager determines that additions or rearrangements have been made to the plumbing system, without the proper permits as required by the Plumbing Code, premise isolation shall be required.

(13) All multistory buildings or any buildings with a booster pump of elevated storage tank.

(14) When entry to the premises is restricted so that inspections for cross connections cannot be made with sufficient frequency to assure that cross connections do not exist.

(15) All commercial buildings where use of the building is not determined or could change.

(16) An approved backflow prevention assembly shall be installed on each service line to a customer's water system serving, but not necessarily limited to, the following types of facilities unless the Operations Manager determines that no actual or potential hazard to the public water supply system exists.

a. Hospitals, mortuaries, clinics, nursing homes.

b. Laboratories.

c. Piers, docks, waterfront facilities.

d. Sewage treatment plants, sewage pumping station, or storm water pumping station.

e. Food or beverage processing plants.

f. Chemical plants.

g. Metal plating industries.

h. Petroleum processing or storage plants.

i. Radioactive material processing plants.

j. Car wash or truck wash.

k. Others specified by the water purveyor.

1:04 WHOLESALE CUSTOMER: Every wholesale customer and other water districts that have a contract for water services with the Authority shall have an active, ongoing cross connection program, approved by the Executive Director. The Authority reserves the right to require a reduced pressure principle backflow prevention assembly, or an air gap, at the interconnect.

1:05 IRRIGATION SYSTEMS:

(1) All irrigation systems which currently have no backflow protection or systems installed after the effective date of these Rules and

Regulations shall be required to meet all specifications pertaining to irrigation systems as stipulated by the ACDH Rules and Regulations, Article XV, Plumbing, or most recent edition.

(2) All irrigation systems which do not currently meet the specifications, as stipulated in this section, will be required to meet these specifications within one (1) year of the effective date of these Rules and Regulations.

(3) All irrigation systems that are on a designated lateral shall install the assembly on the lateral at the service connection. The assembly must be installed in accordance with these Rules and Regulations.

(4) Any addition or new construction of any irrigation system shall abide by the above codes.

(5) All assemblies on irrigation systems regardless of installation point must abide by these requirements.

1:06 TEMPORARY METERS: Backflow protection required on temporary meters will be determined on a case-by-case basis. The type of assembly required will be commensurate with the degree of hazard.

1:07 FIRE SYSTEMS: An approved double check detector backflow prevention assembly ("DCDA") shall be the minimum protection in all new fire sprinkler systems using piping material that is not approved for potable use and/or that does not provide for periodic flowthrough during each twenty-four (24) hour period. A reduced pressure principle detector backflow prevention assembly ("RPDA") must be installed, if any solution other than the potable water can be introduced into the sprinkler system.

1:08 MOBILE UNITS:

(1) A person who owns or operates any mobile unit that uses water from the Authority's public water system shall make application, pay appropriate fees, and obtain a permit from the Operations Manager before assessing the public water system. The Operations Manager may require a fixed air gap or backflow assembly commensurate with the degree of hazard, mounted either on the vehicle or piping.

(2) The failure of the owner or operator of the vehicle to comply with these Rules and Regulations shall be grounds for the Authority to revoke any permit or license required under these Rules and Regulations to operate the vehicle, or the business for which such vehicle is used.

(3) The Operations Manager may deny a permit to any person who is not in compliance with these Rules and Regulations or who has a history of violating the requirements of this Section.

(4) All assemblies required by this Section must abide by the maintenance and testing sections of these Rules and Regulations.

1:09 MULTIPLE SERVICE CONNECTIONS: If premises with multiple service connections require premises isolation, a backflow assembly shall be installed at each service connection. The assemblies shall be commensurate with the degree of the highest potential hazard.

1:10 PLUMBING CODE: As a condition of water service, customers shall install, maintain, and operate their piping and plumbing systems in accordance with the Plumbing Code. If there is conflict between these Rules and Regulations and the Plumbing code, the more restrictive provision shall apply, or a reduced pressure principal backflow prevention assembly will be required to be installed at the service connection.

1:11 THERMAL EXPANSION: If a closed system has been created by the installation of a backflow assembly, it is the responsibility of the property owner to eliminate the adverse effects of thermal expansion.

1:12 PRESSURE LOSS: Any water pressure loss caused by the installation of a backflow assembly shall not be the responsibility of the Authority.

1:13 RESIDENTIAL SERVICE CONNECTIONS: Any residential property which has been determined to have an actual or potential cross connection and/or has violated the Plumbing Code in any way, shall be required to install an approved backflow prevention assembly at the service connection the premises.

1:14 RETROFITTING: Approved backflow prevention assemblies commensurate with the degree of hazard shall be immediately installed on

all actual or potential cross connections, regardless of the date the potential hazard was created.

SECTION 2

2:01 CUSTOMER SERVICE INSPECTION:

(1) The customer's premises shall be open at all reasonable times to the Operations Manager or his designee, for the purposes of conducting surveys and investigations of water use practices within the customer's premises to determine whether there are actual or potential cross-connections to the customer's water system through which contaminants or pollutants could backflow into the potable water system, and to initiate and conclude all the enforcement procedures,

(2) On request by the Operations Manager, the customer shall furnish information on water use practices within the premises.

(3) It shall be the responsibility of the water customer to conduct periodic surveys of water use practices on the premises to determine whether there are actual or potential cross-connections to the water system through which contaminants or pollutants could backflow into the public water supply system.

SECTION 3

3:01 BACKFLOW PREVENTION ASSEMBLY TESTERS:

(1) All backflow assembly testers operating within the Authority's Public Water System shall be certified in accordance with the Authority. No person shall operate as a backflow prevention assembly tester within the jurisdiction without first being annually registered with the Operations Manager.

(2) At the time of registration, recertification, and upon the Operations Manager's request, each person certified as a backflow prevention assembly tester shall furnish evidence to show that he/she is insured and bonded to perform services on private property, and has all required current licenses as required by the Commonwealth of Pennsylvania and the Authority to perform the contemplated services.

(3) Persons certified as backflow prevention assembly testers shall meet the following requirements:

(a) Hold a backflow prevention assembly certification that is approved by the Authority;

(b) Maintain general commercial liability insurance and automobile liability insurance with the following minimum limits: $500,000 per person, $500,000 per accident for bodily injury, and $500,000 per accident for property damage, or $1,000,000 if combined;

(c) Agree to abide by all requirements of the United States Occupational Safety and Health Administration ("OSHA"); and

(d) Attend an update/recertification class every three (3) years.

(4) A backflow prevention assembly tester shall renew his/her registration with the Operations Manager every year. If a certification expires for a period of one (1) year, the backflow prevention assembly tester may re-establish registration eligibility by showing proof that he/she has retaken an approved backflow prevention tester certification course.

(5) A registered backflow prevention assembly tester shall:

(a) File the serial number of each of their test gauges with the Operations Manager;

(b) Annually, have each recorded test kit tested for accuracy and calibrated by a company or individual approved by the Operations Manager to maintain a 2 percent (2%) accuracy factor;

(c) Perform a competent and accurate test on each backflow prevention assembly, as established by the regulations;

(d) Submit completed test forms to the Operations Manager within ten (10) days after the test is completed on any backflow assembly tested within the Authority's Public Water System;

(e) List registered serial numbers of test gauges on tests and maintenance reports prior to submitting the reports to the Operations Manager; and

(f) Not change the design or operation characteristics of a backflow prevention assembly.

(6) The Operations Manager may revoke a registration if he/she determines that the tester:

(a) Has made false, incomplete, or inaccurate assembly testing reports;

(b) Has used inaccurate gauges;

(c) Has used improper testing procedures;

(d) Has expired insurance;

(E) Is not in compliance with safety regulations;

(f) Has failed to register the serial numbers of his/her test kits or failed to calibrate gauges annually as required by these Rules and Regulations.

(g) Has filed to maintain a current certification; or

(h) Has violated any other provision of these Rules and Regulations.

SECTION 4 - ASSEMBLY REQUIREMENTS

4:01 BACKFLOW PREVENTION ASSEMBLIES: Any backflow prevention assembly required by these Rules and Regulations shall be of a model or construction approved by the Operations manager and shall comply with the following:

(1) Air gap separation to be approved shall be at least twice the diameter of the supply pipe, measured vertically above the top rim of the

vessel, but in no case less than one inch.

(2) All backflow prevention assemblies shall be approved by the Operations Manager and shall mean an assembly that has been manufactured in full conformance with standards approved by the Authority.

4:02 TYPE OF PROTECTION REQUIRED:

(1) The type of protection required under Section 1:03 of these Rules and Regulations shall depend on the degree of hazard, which exists as follows:

(a) An approved air gap separation shall be installed where the public water supply system may be contaminated with substances that are dangerous to the public health and could cause a severe health hazard.

(b) An approved air gap separation or an approved reduced pressure backflow assembly shall be installed where the public water supply system may be contaminated with a substance that could cause a system or health hazard.

(c) An approved air gap separation or an approved reduced pressure backflow assembly an approved double check valve assembly shall be installed where the public water supply system may be polluted with substances that would be objectionable but not dangerous to health.

4:03 INSTALLATION:

(1) Existing backflow prevention assemblies installed prior to the enactment of these Rules and Regulations and approved by the Operations Manager at the time of installation and properly maintained shall, except for inspection and maintenance requirements, be excluded from the requirement of Section 1:03 of these Rules and Regulations providing the Operations Manager is assured that they will satisfactorily protect the public potable supply system. Whenever the existing assembly is moved from the present location or when the Operations Manager finds that the maintenance of the assembly

constitutes a hazard to health, the assembly shall be replaced by a backflow prevention assembly meeting the requirements of these Rules and Regulations.

(2) Backflow prevention assemblies required by these Rules and Regulations shall be installed at a location and in a manner approved by the Operations Manager. The installation shall be completed by an individual who is properly qualified and has acquired the proper permits. The cost of installation shall be the expense of the water customer.

(3) Backflow prevention assemblies installed on the service line to a customer's water system shall be located on the customer's side of the water meter, as close to the meter as is reasonably practical and prior to any other connection.

(4) Pits or vaults shall be of watertight construction, be so located and constructed as to prevent flooding, and shall be maintained free from standing water by means of either a sump and pump or a suitable drain. Such sump pump or drain shall not connect to a sanitary sewer nor permit flooding of the pit or vault by reverse flow from its point of discharge. An access ladder and adequate natural or artificial lighting shall be provided to permit maintenance inspection and testing of the backflow prevention assembly.

4:04 TESTING

(1) It shall be the duty of the customer at any premises on which backflow prevention assemblies exist to have inspections, tests, and overhauls made in accordance with the following schedule or more often where inspections indicate a need.

(a) Air gap separation shall be inspected at time of installation and at least every twelve (12) months thereafter.

(b) Double check valve assemblies shall be inspected and tested for tightness at the time of installation and at least every twelve (12) months thereafter.

They shall be dismantled, inspected internally, cleaned, and

repaired whenever needed and at least every thirty (30) months.

(c) Reduced pressure principle assemblies shall be inspected and tested for tightness at the time of installation and at least every twelve (12) months thereafter.

They shall be dismantled, inspected internally, cleaned, and repaired whenever needed and at least every five (5) years.

(2) Inspections, tests, and overhaul of backflow prevention assemblies shall be made at the expense of the water customer and shall be performed by the public water supplier or a person certified to inspect, test, and overhaul backflow prevention assemblies.

(3) Whenever backflow prevention assemblies required by these Rules and Regulations are found to be defective, they shall be repaired or replaced at the expense of the customer within ten (10) days.

The water customer must maintain a complete record of each backflow prevention assembly from purchase to retirement. This shall include a comprehensive listing that includes a record of all tests, inspections, and repairs. Records of inspections, tests, repairs, and overhaul shall be submitted to the public water supplier immediately following completion.

Backflow prevention assemblies shall not be bypassed, made inoperative, removed, or otherwise made ineffective without specific authorization by the water supplier.

SECTION 5

5:01 RESPONSIBILITIES OF PROPERTY OWNERS AND/OR LESSEES: It is the responsibility of all property owners, their agents and/or lessees to abide by the conditions of these Rules and Regulations.

SECTION 6

6:01 ACCESS TO PREMISES:

(1) Pursuant to § 159 of the Authority's Rules and Regulations Governing

Water and Sewer Service, every person provided water service by the Authority directly or indirectly shall permit the Operations Manager to enter their premises and buildings for the purpose of inspecting pipes and fixtures and the manner in which the water is used to determine compliance with these Rules and Regulations.

(2) If access is denied to premises for inspection by the Operations Manager, a reduced pressure principle assembly will be required at the service connection to the premises.

(3) Any temporary or permanent obstruction to safe and easy access to the premises for the purpose of these Rules and Regulations shall be promptly removed. The costs of clearing such access shall be borne by the property owner, their lessees, and/or agent.

(4) Any and all costs associated with the premises isolation or containment protection shall be the sole responsibility of the property owner, lessee, and/or agent.

SECTION 7

7:01 RIGHT-OF-WAY ENCROACHMENT

(1) No person shall install or maintain a backflow prevention assembly upon a right-of-way belonging to the Authority except as provided by this Section.

(2) A backflow prevention assembly required by these Rules and Regulations may be installed upon or within any Authority's right-of-way only if the owner proves to the Authority that there is no other feasible location for installing the assembling and installing it in the right-of-way will not interfere with traffic or utilities. The Authority retains the right to approve the location, height, depth, enclosure, and other requisites of the assembly prior to its installation.

(3) Any assembly or portion of an assembly which extends above ground shall be located no closer than twenty-four (24) inches to the back of the curb.

(4) A property owner shall, at the request of the Authority and at the

owner's sole expense, relocate a backflow prevention assembly which encroaches upon any Authority's right-of-way when such relocation is necessary for street or utility construction or repairs or for purposes of public safety.

SECTION 8

8:01 COST OF COMPLIANCE: The cost and expense of complying with these Rules and Regulations shall be the sole responsibility of the property owner, their lessees, and/or agent. These costs and expenses include, but are not limited to, purchasing, installation, testing, and/or repair of the assembly. These costs and expenses shall also include, but are not limited to, point-of-use and premises isolation assemblies. The property owner, their lessees, and/or agent shall reimburse the Authority for any and all costs and expenses incurred by the Authority in enforcing these Rules and Regulations (the "reimbursement costs"). The reimbursement costs shall be assessed in the property owner's and/or lessee's current water bill and collected in accordance with the Authority's current procedures, or as amended.

SECTION 9

9:01 ENFORCEMENT AND PENALTIES:

(1) The Authority is authorized to enforce the provisions of these Rules and Regulations by any one or more of the enforcement mechanisms set forth anywhere in the Authority's Rules and Regulations Governing Water and Sewer Service of which these cross-connection Rules and Regulations are a part of pursuant to any other law or rule whether set forth herein or elsewhere.

(2) Without limiting or abrogating the rights and defenses otherwise available pursuant to the laws of Pennsylvania, the inspectors, agents, or representatives of the Authority charges with enforcement of these Rules and Regulations, shall be deemed to be performing a governmental function for the benefit of the general public, and neither the Authority, the Operations Manager, nor the individual inspector, agent, or representative of the Authority engaged in inspection or endorsement activities under these Rules and Regulations, when acting in good faith and without malice, shall ever be held liable for any loss or damage, whether real or asserted, caused,

or alleged to have been caused, as a result of the performance of such governmental function.

(3) Failure on the part of any persons to discontinue the use of all cross connections and to physically separate cross connections is sufficient cause for the immediate discontinuance of public water service to the premises.

9:02 EMERGENCY SUSPENSION OF UTILITY SERVICE

(1) The Operations Manager may, without prior notice, suspend water service to any premises when such suspension is necessary to stop an actual or potential cross connection which:

(a) Presents or may present imminent and substantial danger to the environment or to the health or welfare of persons; or

(b) Presents or may present imminent and substantial danger to the Authority's public water supply.

(2) As soon as practicable after the suspension of service, the Operations Manager shall notify the owner or person in charge of the premises of the suspension in person or by certified mail, return receipt requested, and shall order such person to correct the actual or potential cross connection which could allow the backflow to occur. When time permits, and if the owner or person in charge is readily available, the Operations Manager will give notice about the immediate suspension of services.

(3) If the person fails to comply with an Order issued under these Rules and Regulations, the Operations Manager may take such steps as deemed necessary to prevent or minimize damage to the public water supply or to minimize danger to persons.

(4) The Operations Manager shall not reinstate suspended services until the person:

(a) Presents proof, satisfactory to the Operations Manager, that the actual or potential cross connection has been eliminated, and its cause determined and corrected;

(b) Pays the Authority for all costs incurred by the Authority in responding to the backflow or threatened backflow; and

(c) Pays the Authority for all costs incurred in reinstating service.

(5) No person may reinstate water service to premises suspended pursuant to this Section, without the prior approval of the Operations Manager.

(6) The Authority may file a municipal claim against the property to recover its response, abatement, and remediation costs.

(7) The remedies provided by this Section are in addition to any other remedies set forth in these Rules and Regulations and as otherwise provided by Pennsylvania law. Exercise of this remedy shall not be a bar against, or a prerequisite for, taking other action against a violator.

9:03 NON-EMERGENCY TERMINATION OF WATER SUPPLY:

(1) The Operations Manager may suspend, with twenty-four (24) hours' notice, the water supply to any premises where the following conditions have been violated:

(a) Refusing the Operations Manager's reasonable access to the premise for the purpose of inspection;

(b) Hindering or denying the Operations Manager's access to backflow prevention assemblies;

(c) Failing to eliminate, or protect against, an actual or potential cross connection within a required period of time;

(d) Failing to install and maintain backflow prevention assemblies in compliance with these Rules and Regulations; or

(e) Failing to install, maintain, and operate their piping and plumbing systems in accordance with the Plumbing Code.

(2) The Operations Manager will notify a water user of the proposed termination of its water supply. The water user may petition the

Operations Manager in writing for reconsideration.

(3) Exercise of this enforcement option by the Operations Manager shall not be a bar to, or a prerequisite for, taking any other action against the water user.

(4) The Operations Manager shall not reinstate suspended services until:

(a) The premises have been inspected by the Authority's cross connection control inspector or a reduced pressure principle backflow prevention assembly is installed and tested at the service connection; or

(b) The person presents proof, satisfactory to the Operations manager, that the cross connection has been eliminated and its cause determined and corrected; and

(c) The person pays the Authority for all the costs the Authority will incur in reinstating service.

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SECTION XIV

REGULATIONS FOR AIR CONDITIONING AND OTHER REFRIGERATION

148. GENERAL - The following regulations shall apply to all water-cooled equipment installed on premises for the purpose of reducing the dry-bulb temperature or decreasing the absolute humidity of air, whether for comfort, air conditioning, refrigeration, processing, or whatever other purposes.

149. DEFINITIONS - For the purpose of the regulations under this section, the following terms shall have and shall be construed to have the following Meanings:

(a) The terms "Air Conditioning Special" and "Refrigeration System" shall include any combination of equipment, whether compressor or other type, by which heat is removed from the air and from which the accumulated or effluent heat is wholly or partially removed by the use of water.

(b) "Air Conditioning System" shall mean an installation for maintenance, by heat removal, of temperatures which are less than 60 degrees Fahrenheit.

(c) "Refrigeration System" will mean an installation for maintenance, by heat removal, of temperatures which are less than 60 degrees Fahrenheit.

(d) "System" shall mean any combination of apparatus, individual unit, group, or collection of units supplies with water through any single customer service pipe connected to the public water system.

150. PERMIT REQUIRED - No one shall place into operation or use any equipment for air conditioning or refrigeration which requires a supply of water from the system of the Authority without first having secured a written permit thereof from the Authority.

151. APPLICATION FOR PERMIT - A written application prepared on the form furnished by the Authority must be submitted to the Authority for the purpose of requesting a permit as set forth under the item "Permit Required", said application to be subject to such fees as are required at the time of the

application, which application, together with the Rules and Regulations of the Authority shall regulate and control the use and operation of any equipment for air conditioning or refrigeration; said application to be submitted at least one month before such use is planned.

152. INFORMATION ON APPLICATION - Each applicant for said permit will be required to sign a form or forms provided by the Authority, as previously set forth, the following date to be included thereon and/or attached thereto:

(a) Name and address of the applicant.

(b) Location of the premises where installation is proposed.

(c) Name and address of the owners of the premises.

(d) Names of manufacturers of the units requiring water.

(e) Manufacturer's identification and classification of the refrigeration units.

(f) Manufacturer's rating of maximum refrigerative capacity of the unit or units under the conditions of the planned installation (rating may be stated in tons per 24 hours or in B.T.U. per hour).

(g) Horsepower of compressor prime mover, if unit is of compressor type.

(h) Where water conservation devices are required as set forth herein, the manufacturer's name, identification, classification, and size of the conservation equipment.

(i) Elevation and plan showing general piping arrangements and details of all points of connection to building supply water piping (piping direct to condenser units, makeup supply into tower pan, and so forth).

153. FEE FOR PERMIT - A fee as currently in effect shall be paid at the time of application for a permit, to cover an inspection of the installation. For each additional inspection required, an additional charge shall be made equal to 75 percent (75%) of the original fee.

154. WATER USE AND CONSERVATION - Systems with a capacity in excess of 2 ½ tons per 24 hours shall not use water directly (or indirectly, except when

used with conservation equipment) from the public supply. All such systems shall be equipped with evaporative condensers, cooling towers, spray ponds, or other water conservation equipment, the piping in connection therewith to be arranged so as to prevent any back siphonage into the public water supply system. Systems with a total capacity not exceeding 2 ½ tons (per 24 hours) may use water directly from the public supply at a rate not exceeding 2.0 gpm per ton if the water temperature is 75 degrees Fahrenheit or less, or 3.0 gpm per ton if it is above 75 degrees Fahrenheit, provided they are equipped with an automatic regulating valve which will (1) stop the flow of water when the refrigerating machine is shut down; and (2) throttle the flow of after down to the momentary requirements of the system. All systems having total capacities exceeding 2 ½ tons (per 24 hours) shall be equipped with evaporative condensers, cooling towers, spray ponds, or other water-cooling equipment, unless otherwise approved. This equipment shall be of sufficient capacity to insure conformance with the requirements of the following table for makeup water when operating under full loading at maximum summer temperatures.

MAXIMUM ALLOWABLE WATER USE

WATER HARDNESS P.P.M.	MAXIMUM USE G.P.M./TON
0-139	0.1
140-199	0.15
200-254	0.2
255-339	0.3
340-424	0.4
425 and over	0.5

155. SANITARY PROTECTION - On installations which operate with the use of water directly from the public water supply system, every direct connection shall be equipped with an approved backflow preventer installed in the branch supply line to each unit.

Discharge connections for the disposal of waste waters shall be in strict accordance with the applicable rules and regulations of State and local health regulatory bodies.

Cooling waters which are to be reused for other purposes shall be provided with free above-the-rim discharge before entering other equipment; otherwise,

permission shall be obtained in writing from the Authority approving the proposed connections and use.

On installations other than those described, there shall be a physical break between the public water supply piping and the piping of the installation, so arranged as to make impossible back siphonage to the public water supply system; this requirement being in accordance with the regulations prohibiting cross connections.

156. REVOCATION OF PERMIT - Any permit which is issued under these Regulations may be revoked by the Authority for any one of the following reasons:

(a) Failure of the holder of the permit to discontinue using water for the purpose covered by the permit, immediately upon notice to do so, issued by the Authority during the emergency or to forestall an impending emergency.

(b) Alterations, changes of equipment or piping, improper operation, or lack of maintenance which results in conditions that (1) are hazardous to the potable water supply either within the premises or in supply mains, or (2) cause unnecessary waste of water.

(c) The use of water to exceed the quantities approved.

157. EXISTING INSTALLATIONS - The existing installations, that is, such installations as were in operation prior to the effective date of these Rules and Regulations, shall not be subject to these requirements, except where the use of water in connection therewith seriously impairs water service to other consumers in the area and except where modifications are planned in existing equipment and related facilities.

Applications shall be submitted and permits obtained for all modifications.

Existing installations that result in impairment of water service in the area shall be modified to permit conservation of water, failure to remedy such condition being subject to the penalty hereinafter set forth.

158. PENALTIES - Failure to comply with these Regulations shall be sufficient cause to discontinue water service.

The Authority exercises the right to refuse to issue permits to anyone who is guilty of prior violation of these Rules and Regulations.

SECTION XV – GENERAL

159. INSPECTON: Authorized employees of the Authority, identified by proper badges, shall have access to the customer's premises at all reasonable hours, for the purpose of turning the water on or off; inspection, repair, and/or replacement of service lines and service line extensions; inspection, setting, reading, repairing and removal of meter; and for all such justifiable purposes.

The Authority shall have the power to make such excavations as are required for the proper execution of work.

160. TURN ON CHARGE - Where there is no unpaid bill, water will be turned off and on without charge for consumers who wish to discontinue or renew service. When water has been turned off because of an unpaid bill or violation of the terms of the application or rules of the Authority, a turn on charge, currently in effect, as established by the Authority Board, must be paid in case before water service is restored.

Water service will be suspended for nonpayment of sewer service charges even though the charges for water service are paid.

161. INTERFERENCE WITH AUTHORITY'S PROPERTY - No workman, owner, tenant, or other unauthorized person shall turn the water on or off at any corporation cock or curb cock or break the seals, disconnect, or remove the meter, or otherwise interfere with the Authority's property.

For unauthorized operation of street valve, curb stop, service cock, or other service connection, the person owning the premises served by the line connected to said street valve, curb stop, service cock, or other service connection shall be required to pay ten dollars ($10.00) and any costs required in connection with damage to these facilities.

162. ONLY RULES BINDING - No agent or employee of the Authority shall have authority to bind it by any promise, agreement, or representation not provided for in these rules without the approval of the Authority.

163. SERVICE OF NOTICES - All notices and bills relating to the Authority or its business shall be deemed to have been properly served if left upon the premises of the customer or if mailed to the customer, directed to, or left at his address as shown on the records of the Authority. Failure on the part of the customer to receive a notice or a bill following proper service by the Authority shall not excuse the customer for payment of all amounts due, including penalties for late payment.

The Authority will send all such notices and bills to the address given on the application for water and/or sewer service until a notice of change, in writing, has been filed with the Authority by the applicant.

All notices of a general character, affecting or likely to affect a large number of customers, shall be deemed to have been properly given or served if advertised in the newspaper designated by the Authority.

164. COMPLAINTS - Complaints relative to the character of the service furnished or the reading of meters or of bills rendered must be made in writing and delivered to the main office of the Authority.

165. SERVICE NOT GUARANTEED - Nothing in these Rules, nor any contract, nor representation, verbal or written, of the Authority or any of its employees shall be taken or construed in any manner to be or constitute a guarantee to furnish a proper quantity of water through any service connections, whether for domestic, commercial, industrial, manufacturing, or other general uses, or for public or private fire protection purposes, or for any other special purposes; but the Authority will at all times and under all conditions, endeavor to maintain the efficiency of its service.

The Authority shall have the right to temporarily cut off the water supply in the case of breaks, emergencies, or for any other reasonable cause, in order to make necessary repairs, connections, and do such other work. In such cases, the Authority shall not be liable for any damage or inconvenience or any claim for interruption of service, lessening of supply, inadequate pressure, poor quality of water, and such other reasons.

166. RESTRICTION OF SUPPLY - The Authority reserves the right to restrict the supply of water in case of scarcity or whenever the public welfare may require it, and to reserve a sufficient supply of water at all times in its reservoirs to prove for fire and other emergencies.

167. COMMONWEALTH OF PENNSYLVANIA – BILLS FOR WATER AND/OR SEWER SERVICE - The Commonwealth of Pennsylvania and any agency thereof is entitled to a 30-day period from the due date of any bill within which it may pay for water and/or sewer service without the imposition of a penalty.

168. GROUND WIRE ATTACHMENTS - All customers are forbidden to attach any ground wire or wires to any plumbing which is or may be connected to a service connection or main belonging to the Authority, and the Authority will hold the customer liable for any damage to its property occasioned by such ground wire attachments.

169. WATER HAMMER - No use of water will be permitted which may cause water hammer.

170. ACTS OF AUTHOIRTY EMPLOYEES AND/OR OTHERS - No agent or employee of the Authority shall have the power or right to bind the Authority by any promise, agreement, or representation contrary to these Rules and Regulations.

171-A. SWIMMING POOLS - The Authority has the right to require that the filling of swimming pools and similar facilities or use (collectively referred to as "swimming pools") and other work relative thereto be subject to the prior approval of the Authority.

The filling of swimming pools shall be subject to the following:

(a) An application to fill a swimming pool shall be provided to the Authority at least five (5) business days in advance of the planned commencement of the filling.

(b) The rate of filling shall not be excessive and/or cause any disturbance or serious pressure drop in the existing Authority water distribution system and be subject to approval of the Authority.

(c) The lines extending to and around the swimming pool shall be thoroughly flushed to waste until the water is clear, and, if necessary, the water shall be passed through the pool filters prior to

discharge into the pool or pools. The swimming pool shall be thoroughly flushed and cleaned before closing of the drain valves.

(d) No chlorine shall be applied to the pool water during the initial filling, except ahead of the filters, and the filter and recirculating systems shall be maintained in constant use during filling. If no filter system exists, the owner and/or operator must accept full responsibility for causing, through the use of chlorine, the precipitation of iron and manganese and such other constituents, and possibly causing discoloration of the water.

(e) No swimming pool shall be filled except through a meter registered with and approved by the Executive Director or by means of some alternative procedure approved and supervised by the Executive Director to achieve an accurate measurement of the amount of water piped into the swimming pool. The use of fire hydrants to fill swimming pools is prohibited, without prior written approval by the Authority. The operation of a fire hydrant must be conducted solely by an employee of the Authority and all costs associated with the operation must be paid by the swimming pool owner.

(f) As used in this Rule, the term Executive Director shall include any other employee of the Authority designated by the Executive Director to perform the duties set forth in this Rule.

171-B. CREDITS AGAINST SEWAGE CHARGES AND DEDUCT METERS

(a) If a customer desires to seek a credit on his or her sewage bill for water utilized solely in a swimming pool or similar facility or use, the customer shall file with the Authority a written Application therefore. The Application must be submitted to the Authority five (5) business days in advance of filling. Any fillings that occurred prior to the application will not be eligible for a credit.

(b) This only applies to swimming pools being filled through the main property meter and NOT through a deduct meter. If a deduct meter is used, it must be approved, registered and current with the Authority, otherwise, sewage will be charged.

(c) The Authority reserves the right, in its sole discretion, to inspect and test any meter to verify the meter's accuracy and compliance with these Rules and Regulations and any other conditions imposed by the Executive Director on the use of the meter.

(d) As used in this Rule, the term Executive Director shall include any other employee of the Authority designated by the Executive Director to perform the duties set forth in this Rule.

(Resolution No. 2 of 2021, April 21, 2021)

172. MISCELLANEOUS WORK AND SERVICES FURNISHED BY THE AUTHORITY - The cost of repair and/or restoration of Authority facilities damaged due to the actions of others, including the cost of lost water, shall be paid for by those responsible therefore.

The cost of the foregoing work and any miscellaneous services furnished by the Authority, except as otherwise set forth herein, shall be determined based on the charges and/or methods of computing charges as set forth in the schedule of Rates and Schedule of Charges.

All bills for such work and services furnished by the Authority, based on the Schedule of Charges and methods of computing charges in accordance with the aforesaid schedules, shall be rendered by the Authority and be due and payable within thirty (30) days after the date of presentation.

Payment of such bills after expiration of the thirty (30) day period will incur a penalty of five percent being added to the bill and, after an additional thirty (30) day period, an additional penalty at the rate of six percent per annum being added to the bill for the period between the end of the fifty (50) day period and the date of payment.

The Authority, if necessary, will take appropriate legal action to recover all monies due if payment is not made to the Authority.

173. TAPPING FEES - The Authority has published a schedule of tapping fees for all connections to main water lines and sewers; such fees to vary, subject to the conditions under which the main line or lines have been installed, and to be

subject to the size of the connection and such other factors, as set forth in the schedule of tapping fees.

The tapping fee may vary for each individual size connection, subject to whether the connection is on a line installed by the Authority and/or others, whether the main line is subject to an agreement with others involving reimbursement conditions as relate to conditions to the line or lines, whether the main line was installed under an assessment program, and to whether there are any other special conditions.

174. AVAILABILITY – RULES AND REGULATIONS - Copies of these Rules and Regulations Governing Water and Sewer Service may be obtained at the office of the Authority for $25.00 per copy. Copies are available for review at the office of the Authority at all times during regular working hours.

Single copies of Rules and Regulations - Water Line and Sewer Extensions, and Schedules of Rates and Charges are available at no cost. The conditions in the Rules and Regulations – Water Line and Sewer Extensions are the same as those in Section XVI – Water Line and Sewer Extensions of the Rules and Regulations Governing Water and Sewer Service, the separate publications being prepared for the convenience of the public, relating to a phase of work operation that is constantly of interest and being applicable to all new work as relates to water main extensions.

SECTION XVI

RULES AND REGULATIONS GOVERNING WATER LINE AND SEWER EXTENSIONS

175. GENERAL - The extension of water lines and sewers from the utility system of the Municipal Authority of the Township of Robinson shall be in accordance with the following rules and regulations. All extensions shall be connected to main water lines or sewers owned by the Authority, unless otherwise approved.

176. GENERAL REQUIREMENTS - A water line extension and/or sewer shall be required by the Authority in all or any one of the following instances:

(a) For the furnishing of water or sewer service to an individual premise whose property line does not abut a main water line or sewer installed in a public or private right-of-way and owned by the Authority.

(b) For the furnishing of water or sewer service to a group of individual premises whose property lines do not abut main water lines or sewers installed in public or private right-of-way and owned by the Authority.

(c) For the furnishing of water or sewer service to a group of premises located within the limits of a recorded plan of lots where the developer of the plan is desirous of obtaining such service for the lots.

(d) For the furnishing of public or private fire service to a municipality or a private individual, firm, or corporation or others requesting such service where no Authority owned lines are installed in public rights-of-way or where existing Authority owned lines are not capable of producing the requested fire flows.

(e) For the furnishing of a requested quantity of water or sewer service for a premises or group of premises which is beyond the capability of the existing Authority system in the area where service is required.

(f) Such other similar instances.

177. LIMIT OF EXTENSION - The extension of a water line shall include the entire quantity of pipeline and appurtenant facilities required to conduct the supply of water from the end of the existing distribution system of the Authority to and across the entire frontage of the last property for which the owner has requested water service.

178. APPLICATION FOR EXTENSION - A written application must be submitted to the Authority for the purpose of requesting approval of a water line or sewer extensions and water or sewer service there from; said application to be accompanied by plans showing the proposed location of said extension and other pertinent conditions; said application to be signed by the owner or owners, to be subject to the terms and conditions as are hereinafter set forth and included herein, and to the execution of an agreement, which application, together with the Rules and Regulations of the Authority shall regulate and control the installation of water line and sewer extensions and the furnishing of water service or sewer service there from.

The application shall be accompanied by accurate plans showing the proposed location of the extensions, the layout of the streets and roads, the layout of

existing and proposed plans of lots, and other pertinent date, such plans to be in sufficient detail to permit the preparation by the Authority of detailed plans for the requested extension.

Applications for water line extensions shall be accompanied by a filing fee in the amount of One Hundred Dollars ($100.00); for sewer extensions the fee shall be Two Hundred Dollars ($200.00).

179. RESPONSIBILITY FOR COST - The entire cost of the requested extension shall be borne by the owner, the Authority to be subject to no cost. The Authority will be subject to payment of such refunds as are agreed to in writing.

The cost of a water main extension or installation shall include the following:

(a) The cost of water lines at least six (6) inches, and not more than eight (8) inches in size.

The minimum size shall be eight (8) inches in all locations where the line will serve as a main transmission line and/or is necessary for proper future expansion and development of the system.

(b) The cost of connections to the existing main lines.

(c) The cost of all main line meters, valves, valve boxes, fittings, fire hydrants, and all related work.

(d) The cost of all land and rights-of-way.

(e) The payment of a minimum of fifteen percent (15%) of total construction costs to defray all legal, engineering, and overhead costs. All costs in excess of fifteen percent (15%) must be borne by the person or persons requesting the extension.

The cost of a sewer extension shall include the following:

(a) The cost of a sewer at least eight (8) inches in size or such larger size as is required to adequately serve the drainage area.

(b) The cost of all manholes, lamp holes, wye branches, house connections,

granular bedding, and such other materials and appurtenances required to make a complete and operating installation.

(c) The cost of connecting to the existing sewer system.

(d) The cost of all land and rights-of-way.

(e) The payment of a minimum of fifteen percent (15%) of total construction costs to defray all legal, engineering, and overhead costs. All costs in excess of fifteen percent (15%) must be borne by the person or persons requesting the extension.

180. PAYMENT OF COST - The owner shall deposit with the Authority, prior to the execution of any work, a sum of money sufficient to pay all the estimated costs of the extension, as determined in accordance with the procedures set forth herein, the deposit to be made upon the execution of an agreement between the Authority and the Owner. However, the Authority will prepare plans and specifications and will receive bids for the work upon the deposit of ten percent (10%) of the estimate of total cost of the project.

181. AGREEMENT - The owner shall enter into an agreement with the Authority, prior to the execution of any work, the agreement to contain such pertinent conditions as the following:

(a) The cost of all work to be borne by the Owner.

(b) The materials and workmanship to be in accordance with the Specifications of the Authority.

(c) The highways, streets, alleys, and lanes in which the extension is to be located must be dedicated to public use, the lines and grades thereof established and the rough grading completed. Where a line is located in a private right-of-way, said right-of-way shall be dedicated for utility use.

(d) The ownership title to all installations to be conveyed to and vested in the Authority.

(e) The Authority to have the right to make further extensions beyond or laterally from the extensions, such extensions not to be considered as

connections subject to any refund.

(f) The payment of refunds to the owner for additional new customers to be subject to such conditions as set forth herein or as agreed upon and limiting number of years. No refunds are to be made unless from monies received from other consumers for the privilege of obtaining service from the extension.

(g) Such other related requirements.

182. INSTALLATION SPECIFICATIONS – All water lines and related facilities shall be installed in strict compliance with the Specifications for Construction of Water Lines (the "Water Specifications") developed by and on behalf of the Authority, as the same may be amended from time to time. A current version of the Water Specifications is attached hereto as Appendix "A," made an integral part of these Rules and Regulations and incorporated herein.

All sanitary sewer lines and related facilities shall be installed in strict compliance with the Specifications for Construction of Sanitary Sewer Lines (the "Sanitary Sewer Specifications"). A current version of the Sanitary Sewer Specifications is attached hereto as Appendix "B," made an integral part of these Rules and Regulations and incorporated herein.

In the event of any conflict or inconsistency between these Rules and Regulations and the Water Specifications or the Sanitary Sewer Specifications relating to specifications, requirements and conditions concerning the planning, designing, construction, installing and testing of water and/or sanitary sewer facilities, the Water Specifications or the Sanitary Sewer Specifications, as the case may be, shall govern in all instances. Any provision of these Rules and Regulations conflicting with the said Specifications shall be null and void and of no force and effect.

183. REFUNDS - The refund policy of the Authority, with respect to water line and sewer extensions, will vary based on current conditions and shall, therefore, apply as currently in effect at the time the application for a water line extension or sewer extension is approved.

SECTION XVII

RULES AND REGULATIONS GOVERNING DYE TESTS

184. RIGHT TO CONDUCT DYE TESTS – GENERAL PROGRAM - The Authority shall have the right, upon ten (10) days written notice to conduct a dye test of any customer's real estate to determine whether storm or other surface water is illegally discharged into the Authority's sanitary sewer system.

185. PROCEDURE

a. The customer shall sign a dye test authorization, substantially in the following form:

DYE TEST AUTHORIZATION

I hereby authorize the Municipal Authority of the Township of Robinson ("Authority") to conduct, in accordance with existing law and regulation and the Authority's Rules and Regulations, as many dye tests as are needed in connection with my real estate located at _____.

In the event there are other owners of this real estate, I hereby certify to the Authority that I am authorized to execute this Authorization on their behalf.

Date: _____ _____
Owner

Witness: _____

Customer Declined Dye Test:

Date: _____

By: _____

b. In conducting the dye tests and determining whether discharge is illegal, the Authority shall utilize the applicable DER regulations or standard engineering practices.

c. In the event the Authority determines illegal discharge, it shall notify the customer in writing. The customer shall have thirty (30) days from the date of the Authority's notices within which to correct the illegal discharge. The time for said correction may be extended for good cause by the Authority's Engineer upon written application by the customer. The application shall state the reasons for the extension of time and length of extension requested. Under no circumstances shall the Engineer grant an extension of more than sixty (60) days beyond the expiration of the original thirty (30) day period.

d. Upon completion of the correction, the customer shall notify the Authority which shall cause the customer's real estate to again be inspected to determine whether the illegal discharge has been corrected. The inspector shall either approve or disapprove the corrective work either in whole or in part.

e. In the event the Authority determines that the corrective work is inadequate, either in whole or in part, the Authority shall grant the customer an additional ten (10) days to correct the deficient work. No extensions of time shall be granted with respect to this ten (10) day period.

186. SANCTION FOR NONCOMPLIANCE - In the event the customer shall fail or permit the Authority to conduct any such dye tests or fail to correct an illegal discharge, the Authority is empowered to terminate water and/or sewer service to the subject real estate.

187. RIGHT TO CONDUCT DYE TESTS – SALE OF REAL ESTATE - The Authority shall have the right to conduct dye tests in connection with the sale of any customer's real estate to which the Authority provides water and/or sewer service ("service") and to grant, deny, or condition the issuance of the Authority's No Lien Letter and Document of Certification to the Customer.

188. PROCEDURE

a. Any customer selling real estate to which the Authority provides service (hereinafter referred to as "Applicant") shall make application for a dye test on a form furnished by the Authority at least thirty (30) days prior to the date of closing the sale.

b. The Authority shall then perform a dye test on the property to be sold. All dye tests shall be performed by an inspector appointed by the Authority.

c. The inspector shall complete the appropriate portions on the form and certify that the property has been dye tested and certify the results of such test. In the event there are no illegal storm or surface water connections, the Authority shall issue a No Lien Letter and Document of Certification upon payment of such fees as established by the Board of Directors.

D. When an illegal storm or surface water connection is discovered by means of the above-mentioned dye test, no Lien Letter and Document of Certification will be issued until the illegal connections are removed and certification of such removal by the inspector is received.

189. DURATION OF DOCUMENT OF CERTIFICATION - A No Lien Letter and Document of Certification shall be valid for a period of one year from the date of issuance. Real estate may be sold during the one-year effective life of such document without further dye testing or certification.

190. INSTANCES WHEN DOCUMENT OF CERTIFICATION NOT REQUIRED - A No Lien Letter and a Document of Certification shall not be required in the following instances:

a. When real estate is refinanced but no conveyance takes place.

b. Individual apartment-type units within a single condominium building may be sold without individual certification provided that the building in which the units are located has been certified no longer than one year previous to the date of the sale of the individual condominium unit.

191. TEMPORARY DOCUMENT OF CERTIFICATION - A Temporary Document of Certification may be issued at the Authority's sole discretion when, either:

a. The Applicant proves that dye testing cannot be performed because of weather conditions. When such is the case, the applicant shall provide the Authority with security in such amount as the Board of Directors

shall establish to guarantee that the dye test will be performed. The Applicant will cause to have the dye test performed within fourteen (14) days of written notification from the Authority which will be given at such time as weather conditions make the dye test possible. In addition, the Applicant shall provide a signed, written acknowledgement from the purchaser agreeing to correct, at purchaser's sole cost and expense, any violations that may be discovered as a result of subsequent dye tests. Nothing in this Regulation shall prohibit any purchaser from requiring the applicant to reimburse purchaser for any costs incurred; provided, however, that primary liability shall run with the land and no such agreement shall affect Authority's enforcement powers or excuse the current owner from compliance with these Regulations; or

b. When an illegal storm or surface water connection is discovered and the necessary remedial activities to correct such connection would require a length of time such as to create a practical hardship for the Applicant, Applicant may apply to the Authority for a Temporary Document of Certification which may be issued only when the Applicant provides the Authority with the following:

(i) A bona fide, executed contract between the Applicant and a contractor, acceptable to the Authority, to complete the necessary remedial work with the Authority listed therein as a third-party beneficiary; and

(ii) Cash security in twice the amount of said contract is posted with the Authority; and

(iii) A written agreement by the purchaser to be responsible for all cost overruns and extras related to the remedial work together with a written license to enter upon the property to complete the work in case of default of the contractor referred to above. The Authority's Engineer shall determine when such Temporary Document of Certification shall expire. Upon expiration, the security shall be forfeited, and the Authority may use the security to have the necessary remedial work completed.

192. EXPEDITED SERVICE - Where requested by a property owner or his agent and subject to time availability as determined solely by the Authority's Manager or his delegate, the Authority may issue a No Lien Letter and

Document of Certification or a Temporary Document of Certification as soon as possible upon the payment of an Expedition Fee in addition to the fees set forth above. The amount of the Expedition Fee shall be established by the Board of Directors.

193. FEES - The Board of Directors is authorized to establish fees for the initial and each and every subsequent dye test and other service or charge connected herewith which fees and charges shall be listed on the Authority's Schedule of Rates and Charges.

(Adopted by Resolution No. 7 of 2021)

SECTION XVIII

CONSTITUTIONALITY AND SAVING RULE

194. GENERAL PROVISIONS* - If any provision, section, sentence, clause, or phrase of these Rules and Regulations Governing Water and Sewer Service as may be amended from time to time, or the application of same to any person or set of circumstances, are for any reason held to be unconstitutional, void, invalid, or illegal or for any reason unenforceable, the validity of the remaining portions of these Rules and Regulations or its application to other persons or circumstances shall not be affected thereby; it being the intent of the Authority in adopting and approving these Rules and Regulations, that no portion hereof or provision or regulation contained herein shall become inoperative or fail by reason of any unconstitutionality, invalidity, or illegality of any other portion, provision, or regulation.

THE MUNICIPAL AUTHORITY OF THE TOWNSHIP OF ROBINSON

SPECIFICATIONS

FOR

CONSTRUCTION OF WATER LINES

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THE MUNICIPAL AUTHORITY OF THE TOWNSHIP OF ROBINSON

SPECIFICATIONS FOR CONSTRUCTION OF WATER LINES

1.0 SCOPE

These Specifications have been developed as a guide to assist Developers, Designers and Contractors (for purposes of these Specifications, Developers, Designers and Contractors shall be hereinafter referred to, collectively, as "Contractor" or "Contractors," as the case may be) involved in planning, designing and constructing water distribution or transmission facilities under the jurisdiction of The Municipal Authority of the Township of Robinson. It should be understood that these Specifications are general in nature and are not intended to address all conditions or needs of a particular project. Special circumstances which are peculiar to individual projects may require special design considerations. The Contractor of proposed water distribution or transmission facilities is encouraged to consult with The Municipal Authority of the Township of Robinson and/or its authorized representatives (hereinafter, collectively, "the Authority") regarding specific problems or unusual circumstances which may arise in the planning, design or construction of such facilities.

2.0 GENERAL

All materials utilized in the construction of water distribution or transmission facilities shall be of the type and quality of those specified herein. Where specific brand or trade names of a particular manufacturer or vendor are used and the term or equal is not used therewith, it shall be interpreted strictly that the specific item or article is required for reasons of compatibility and/or standardization. In such cases, no substitution of specified items shall be made without written approval of the Authority. Where, in these Specifications, reference is made to other Standard Specifications, Standards, Manuals or Codes of any technical society, organization or association or to the code of any governmental authority, whether such reference is express or by implication, shall mean the latest Standard Specification, Manual or Code in effect at the time. All materials and equipment shall be new and both workmanship and materials shall be of good quality. Any materials or equipment found to be defective for any reason, as may be determined by the Authority, shall be removed and replaced with new materials or equipment in good condition and of the type specified.

3.0 QUALITY ASSURANCE (SUBMITTALS AND SHOP DRAWINGS)

To ensure that the specified products are furnished and installed, submittals, including manufacturer's certificates, shop drawings, brochures, product samples and catalog cuts for all products and materials to be used in connection with the project shall be submitted to the Authority. All such submittals shall be made in quadruplicate and sufficiently in advance of the purchase of such materials to permit review of such submittals by the Authority. Allow sufficient time for possible revisions and resubmittals. No substitution of the specified materials or equipment shall be permitted without written approval of the Authority.

4.0 SIZING AND ROUTING WATER MAINS

Water mains shall be adequately sized to accommodate the proposed domestic, commercial or industrial system demands of the facility(ies) which it is intended to serve, together with sufficient allowance for fire service needs. When sizing water mains, consideration shall also be given to any foreseeable extension(s) of the system and the additional capacity requirements of such extension(s). The Authority shall reserve the right to judge the adequacy of water main sizing.

The route or path of water mains shall be such that the water pipelines shall not be made unreasonably inaccessible for future maintenance or operational activities due to the relative proximity of other utilities or other physical features including buildings, site amenities, structures, limiting geographic conditions or any other existing or foreseeable condition which would limit or impede maintenance or operational activities.

Minimum horizontal and vertical separation between water mains and sewers shall be provided as outlined in the Pennsylvania Department of Environmental Protection Public Water Supply Manual.

5.0 PLANS, ALIGNMENT AND EASEMENTS

Any person or firm who engages in the preparation of Design Plans for the construction or extension of the Authority's Water Facilities is encouraged to confer with the Authority prior to commencing design activities. The preparation of preliminary or sketch stage Design Plans, for the purposes of obtaining review comments, guidance and recommendations, is also encouraged as a means to anticipate problems and minimize the time and effort involved in producing acceptable Final Design Plans.

Final Design Plans shall be of sufficient scale and shall be neat, legible and contain adequate details and dimensions to clearly demonstrate the size and location of the water mains and appurtenances, as well as the relative location of other utilities and/or pertinent physical features, whether existing or proposed.

The horizontal location of proposed water mains, valves, fittings, fire hydrants, etc. along roadways shall, to the extent practical, maintain a uniform parallel alignment with the roadway. Abrupt changes in horizontal and vertical alignment, or "snaking," is discouraged. The precise design location of water mains, valves, fittings, fire hydrants and other system components shall be identified by station and offset from the roadway centerline at sufficient intervals and at changes in direction. Other means of dimensioning or identifying the precise design location of the facilities, including changes in alignment, may be accepted. The position of all water system components shall be such that sufficient areas are available for maintenance and operational activities. Water facilities shall not be crowded over against one side of a public right of way or easement.

All Plans shall include the applicable Standard Construction Details attached to these Specifications. In addition, enlarged scale views and special details shall be provided for special design conditions unique to a particular project.

6.0 WATER MAINS

All water pipelines shall be constructed of ductile iron pipe. The pipe shall conform in all respects with American Water Works Association (AWWA) Standard C150 and C151. All pipes shall be

double cement mortar lined and provided with an asphaltic seal coat. The cement lining and seal coat shall conform to AWWA Standard C104. All pipes shall be free of defects and shall be a minimum of special thickness Class 52 in accordance with AWWA Standard C150. Heavier thickness classes may be required in instances where high system pressures, excessive loading due to depth of bury and external loading factors or other special circumstances may dictate. The Authority shall reserve the right to determine the minimum thickness class of pipe which shall be required for any particular installation.

Pipe joints shall be Bell and Spigot Type and shall conform to AWWA Standard C111. Where owing to special conditions or project needs the Authority may require or approve the use of other types of pipe joints as follows:

- Mechanical joints conforming to AWWA Standard C111.
- Flanged joints conforming to AWWA Standard C115.
- Special positive restrained joint piping systems.

7.0 TRENCHING AND PIPE BEDDING

The side walls of the trench shall be kept as nearly vertical as possible and shall be properly shored and braced. Trenches shall be excavated true to line and grade so that a clear space of not less than four inches (4”) and not more than eight inches (8”) is provided on either side of the barrel of the pipe.

All pipe trench excavation shall be made to a minimum depth of four inches (4”) beneath the pipe. The pipe shall then be bedded in crushed stone or rounded gravel bedding material in accordance with the requirements for class B, First Class Bedding material in accordance with ASTM Designation C-12 latest edition and conforming to the applicable Standard Detail drawings. All water pipelines shall have a minimum of four feet (4’) depth of cover.

Where rock excavation is encountered, the rock shall be excavated a minimum over-depth of six inches (6”) below the trench depths specified. The over-depth rock excavation and all excessive trench excavation shall be backfilled with Class B, First Class Bedding material in accordance with ASTM Designation C-12 latest edition.

Where quicksand, muck or other such conditions exist, resulting in an unstable trench bottom, tongue and grove sheet piling, timer piles and/or over excavation and backfilling with selected borrow material may be required. The type and extent of methods employed to stabilize the trench bottom shall be approved by the Authority.

All ground water, or water from any other source or cause whatsoever, found in the trenches shall be pumped or bailed out so that the trench shall be dry during pipe laying period. No water shall be permitted to reach the joints or run through the pipe. All water pumped from the trenches shall be disposed of in a satisfactory manner.

8.0 THRUST RESTRAINT

The design and construction of water pipelines shall include provisions for thrust restraint of pipe

and fittings. Thrust restraint of pipe and fittings shall be accomplished with approved restraining devices and/or the use of approved special positive thrust restrained piping systems. Special positive thrust restrained piping systems may be required by the Authority due to special circumstances including, but not limited to, high pressure service applications, installations on steep gradients and/or poor soil conditions.

The minimum length of thrust restrained pipe and fittings shall be computer calculated in accordance with the Design Procedures of the Ductile Iron Pipe Research Association (DIPRA) Publication entitled "Thrust Restraint Design for Ductile Iron Pipe." A copy of the calculations shall be submitted for review. The calculations shall be based on soils information obtained from site investigations or conservative design parameters as may be approved by the Authority. Thrust restraint devices and/or special positive thrust restrained piping systems shall be designed to provide adequate thrust restraint with a minimum safety factor of two (2.0). The calculations shall also be performed based upon polyethylene encasement of the pipe, valves and fittings. Restraint of pipe and fittings shall be required for distances not less than the minimum calculated restrained lengths and in each direction, from all valves, fittings, dead ends, etc. Restraining devices which may be utilized are as follows:

- EBAA Iron, Inc., Megalug Restraining Glands for Mechanical Joint Pipe and Fittings.
- U.S. Pipe Company, Gripper Gland for Mechanical Joint Pipe and Fittings.
- U.S. Pipe Company, Fieldlok Gaskets for Push-on Joint Pipe and Fittings.
- American Cast Iron Pipe Company, Fast-Grip Gaskets for Push-on Joint Pipe.

Acceptability of any of the listed devices, for a particular application shall be subject to the approval of the Authority.

Other restraining devices may be utilized subject to review and approval of the Authority. The need for special positive thrust restrained piping systems and the type of system to be utilized shall be determined by the Authority on a case-by-case basis.

The use of joint restraint devices and/or special positive restrained joint piping systems shall not preclude the requirement to install concrete reaction (thrust) blocks at the location of fittings, valves and dead ends.

9.0 POLYETHYLENE ENCASEMENT

1. All piping, valves and fittings shall be encased in four (4) mil cross-laminated, high-density polyethylene film in accordance with AWWA Standard C105 "Polyethylene Encasement for Ductile Iron Pipe Systems."

2. Cross-laminated high-density polyethylene film, virgin polyethylene only, no recycled material, finished through a heated ribbing process.

3. Shall have exceptional resistance to punctures and tears that may occur during the installation process.

4. Four (4) mil thickness.

5. Printed per AWWA C105 standard.

6. Sigma Polyethylene Encasements Products – Valeron four (4) mil CLHDPE or AA Thread Seal Tape, Inc. four (4) mil CLHDPE.

7. Pipe Wrap Tape – one and one-half inch (1½") minimum width, six (6) mil nominal thickness, PVC tape, Sigma #355.

10.0 UNDERGROUND EARLY WARNING DETECTION TAPE

Underground early warning detection tape as indicated on the Detail Drawings shall be placed above all water lines installed and as shown on the applicable Standard Detail.

The tape shall be similar and equal to Terra-Tape Extra Stretch, as manufactured by the Tape Products Division, Reef Industries. Tape shall be blue, minimum three inch (3") wide tape, and shall state, "Caution Water Line Buried Below."

11.0 CEMENT CONCRETE AND READY-MIXED CEMENT CONCRETE

Cement concrete and ready-mixed cement concrete shall be Class A and conform to Section 704 of the Pennsylvania Department of Transportation Specifications, Form 408, as the same may be amended from time to time.

12.0 BACKFILLING

Caution in all cases of earth filling and backfilling shall be exercised in a manner ensuring that it is not done prematurely and that no pressure against which the construction has not been designed to withstand is exerted thereby. Any movement of the piping, appurtenances or blocking due to neglect or failure to exercise caution shall be promptly and fully corrected.

The area to be backfilled shall be cleared of all trash and debris prior to backfilling. Material for backfilling shall consist of the excavation or a borrow of sand, gravel or other materials approved by the Authority and shall be free of trash, lumber and other debris. Backfill shall be placed in horizontal layers not in excess of six inches (6") in thickness, properly moistened to approximate optimum requirements and each layer compacted by vibrator tampers, machine tampers or other suitable equipment to not less than ninety-five percent (95%) of the determined dry weight density.

Puddling will not be permitted.

13.0 FITTINGS

Fittings shall be ductile iron conforming to AWWA Standard C110 (full body) or C153 (compact fittings). All fittings shall be cement mortar lined and provided with an asphaltic seal coat. The lining and coating shall be in accordance with AWWA Standard C104. Where owing to special conditions or project needs the Authority may require or approve the use of the other types of fittings as follows:

- Ductile Iron Flanged Joint Fittings in accordance with AWWA C110.
- Ductile Iron Special Positive Restrained Joint fittings.

14.0 VALVES AND VALVE BOXES

Gate valves shall generally be required at points of interconnection between water mains and at strategic locations along extended lengths of mains. Where tees are installed within the water mains, valves shall generally be provided on both runs and along the branch of each tee. Valves shall be set as close as possible to the tee in each case.

Gate valves for sizes four inches (4") through twelve inches (12") shall be Mueller Company Catalog Number A-2360 resilient wedge, mechanical joint ends (unless other type joint ends are approved by the Authority), non-rising stem, direction to open: counterclockwise. Valves fourteen inches (14") and sixteen inches (16") in size shall be Mueller Co. Catalog No. A-2361 Ductile Iron Resilient Wedge, mechanical joint ends (unless other type joint ends are approved by the Authority) non-rising stem, direction to open; counterclockwise. Valves eighteen inches (18") through twenty-four inches (24") in size shall be Mueller Co. Catalog No. A-2360 Ductile Iron Resilient Wedge, mechanical joint ends (unless other type joint ends are approved by the Authority) non-rising stem, direction to open; counterclockwise.

The Authority reserves the right to require other types or brands of valves as may be required for a particular installation and may require such valves due to special conditions or circumstances pertaining to a particular project.

Valve boxes shall be set plumb and centered over the operating nut of the valve. Valve box tops shall be flush with the finished surface of the ground or pavement. Valve boxes located in unpaved areas shall be maintained in a plumb position by installing a concrete support slab, six inches (6") thick, around the valve box top. The support slab shall be square and extend at least six inches (6") in all directions, as measured from the outside of the valve box top. Valve box lids shall be painted blue.

Valve boxes and lids shall be cast iron, bituminous coated. Valve boxes for valve sizes from four inches (4") through eight inches (8") shall be Tyler Pipe 6850 Series, two-piece screw type, five and one-quarter inches (5¼") shaft or equal. Valve boxes for valve sizes from eight inches (8") through twenty inches (20") shall be Tyler Pipe 6860 Series, cast iron, three-piece screw type, five and one-quarter inches (5¼") shaft or equal. All valve box lids shall be marked "WATER" with raised letters.

15.0 FIRE HYDRANTS

Fire hydrants shall be provided and installed in accordance with the applicable Standard Detail. Fire hydrant location and spacing shall be such that no residence, building or structure normally requiring fire protection, shall be located more than approximately five hundred feet (500'), as measured along the roadway, parking area or accessway from a fire hydrant. Where fire hydrants are located near low points in the water main, the fire hydrant shall, where feasible, be set at the low point to facilitate low point flushing. Fire hydrants shall not be set in areas where accessibility of firefighting apparatus may be limited. Fire hydrants shall not unreasonably encumber sidewalks, driveways, parking areas or accessways. Fire hydrants shall not encroach onto private property except where

such hydrants are provided on private fire service lines.

All fire hydrants shall be Mueller Company Super Centurion 250, Model A-423, and include or consist of:

- a valve opening five and one-quarter inches (5¼") in size;
- a mechanical joint connection six inches (6") in size;
- two (2) hose connections (Pittsburgh Thread; Mueller No. 6-298 Thread), each two and one-half inches (2½") in size;
- one (1) (National Standard Thread) Pumper Nozzle four and one-half inches (4½") in size;
- one (1) four feet, six inches (4'6") bury with Pentagon operating nut, open left (counterclockwise), painted standard red; and

Additionally, all fire hydrants shall be fitted to include an assembly that includes a five inch (5") quick disconnect with STORZ adapter as manufactured by Mueller Co.

16.0 STEEL CASING PIPE

Where water mains are installed by boring or for other reasons installed in a casing, the casing pipe shall be welded steel pipe, manufactured and tested in accordance with ASTM A-120, Grade B, with a yield strength of not less than thirty-five thousand (35,000) psi. The pipe shall be new, visibly sound and round. Minimum casing wall thickness shall be as follows:

NOMINAL DIAMETER OF CASING PIPE IN INCHES	WALL THICKNESS
Under 14	0.251"
14 and 16	0.282"
18	0.313"
20	0.344"
22	0.375"
24	0.407"
26	0.438"
28 and 30	0.469"
32	0.501"
34 and 36	0.532"

17.0 CASING SPACER

Where water lines are installed by boring or for other reasons installed in a casing, the water pipe shall be supported by casing spacers constructed of high molecular weight polymer runners secured to a stainless-steel shell, as manufactured by Cascade Water Works Manufacturing Company of Yorkville, IL, or equal. Not less than three (3) spacers shall be used on each pipe length.

18.0 CASING END SEALS

Casing pipe end seals of the required size shall consist of one (1) rubber seal and two (2) T-304 stainless steel bands, as manufactured by Cascade Water Works Manufacturing Company of Yorkville, IL, or equal.

19.0 AIR/VACUUM VALVES AND BLOW-OFFS

Combination air/vacuum valves shall be provided and installed at high points in the system where air would naturally tend to collect. Air/vacuum valves shall be housed in a precast concrete manhole adjacent to the water main and shall be connected to the water main by way of a corporation tap to the main with the necessary length(s) of brass and/or copper pipe. A curb stop and box shall be provided and installed on the brass or copper pipe between the corporation and the air/vacuum valve to facilitate valve maintenance without the need to interrupt service. Air/vacuum valves shall be installed in accordance with the attached Standard Detail or by other methods as may be approved by the Authority. Air/vacuum valves shall be properly sized based on the estimated maximum system flow rate.

Blow-offs or flushing hydrants shall be provided and installed at the terminal ends of water mains to facilitate line flushing and at definitive low points to facilitate sediment removal. Blow-offs shall be properly sized to ensure that flushing will produce a velocity, in the main being flushed, of at least two and one-half feet (2.5') per second. No flushing device shall be directly connected to any sewer.

20.0 DEAD ENDS AND LINE LOOPING

Where practical, water mains shall be looped to eliminate dead ends. Installation of water mains in cul-de-sacs shall normally be accomplished by looping the water main around the outside perimeter of the pavement area to facilitate the future installation of service connections. Where dead ends are necessary or unavoidable, an approved blow-off or flushing hydrant shall be provided and installed in accordance with Section 19.0 of these Specifications and the attached applicable Standard Detail, or by any other methods as may be approved by the Authority.

21.0 EXISTING FACILITIES

Connection to existing facilities shall be made by the Authority at the Contractor's expense. Contractor, nor any other individual or party other than Authority personnel, shall tamper with any water main, operate any valve, fire hydrant or other existing water system appurtenance owned by the Authority.

22.0 PRIVATE FIRE SERVICE LINES

Private fire service lines and/or combination private distribution/fire protection lines or systems may be permitted by the Authority in accordance with Section X of the Authority's "Rules and Regulations Governing Water and Sewer Service." Private fire service lines shall generally be provided with detector check valves or approved fire service meters. The location and manner of housing any detector check valve or fire service meter shall be determined by the Authority. The Contractor shall be responsible for determining the capacity requirements for such installations.

23.0 TESTING AND DISINFECTION

23.1 General

After completion of satisfactory Hydrostatic Testing and prior to being placed into service, all new mains and repaired portions of, or extensions to existing mains shall be thoroughly disinfected in accordance with one of the following methods as set forth in AWWA Standard C651. Following chlorination, the main should be flushed as soon as possible (required within twenty-four (24) hours) because prolonged exposure to high concentrations of chlorine might damage the asphalt seal coating. The disinfection method to be utilized shall be approved by the Authority.

23.2 Methods of Chlorination

A. Tablet Method: The Tablet Method gives an average chlorine dose of approximately twenty-five (25) mg/L.

B. Continuous Feed Method: The Continuous Feed Method gives a twenty-four (24) hour chlorine residual of not less than ten (10) mg/L.

C. Slug Method: The Slug Method gives a three (3) hour exposure of not less than fifty (50) mg/L free chlorine.

23.3 Forms of Chlorine for Disinfection

A. Liquid Chlorine conforming to ANSI/AWWA B301 contains one hundred percent (100%) available chlorine and is packaged in steel containers usually of one hundred (100) lbs., one hundred fifty (150) lbs. or one (1) ton net chlorine weight.

Liquid chlorine shall be used only (1) in combination with appropriate gas-flow chlorinators and ejectors to provide a controlled high-concentration solution feed to the water to be chlorinated; (2) under the direct supervision of a person who is familiar with the physiological, chemical, and physical properties of liquid chlorine, and who is trained and equipped to handle any emergency that may arise; and (3) when appropriate safety practices are observed to protect working personnel and the public.

B. Sodium Hypochlorite conforming to ANSI/AWWA B300 is available in liquid form in glass, rubber lined or plastic containers, typically ranging in size from one (1) qt. to five (5) gals. Containers thirty (30) gallons in size or larger may be available in some areas. Sodium hypochlorite contains approximately five percent (5%) to fifteen percent (15%) available chlorine, and care must be taken to control conditions and length of storage to minimize its deterioration.

C. Calcium Hypochlorite conforming to ANSI/AWWA B300 is available in granular form or in five (5) g tablets and contains approximately sixty-five percent (65%) available chlorine by weight. The material should be stored in a cool, dry and dark environment to minimize its deterioration.

23.4 Basic Disinfection Procedure

The basic disinfection procedure consists of:

A. Preventing contaminating materials from entering the water main during storage, construction or repair.

B. Removing, by flushing or other means, those materials that may have entered the water main.

C. Chlorinating any residual contamination that may remain and flushing the chlorinated water from the main.

D. Protecting the existing distribution system from backflow due to hydrostatic pressure test and disinfection procedures.

E. Determining the bacteriological quality by laboratory test after disinfection.

F. Final connection of the approved new water main to the active distribution system.

23.5 Preventive and Corrective Measures During Construction

A. Keeping Pipe Clean and Dry

Precautions shall be taken to protect the interiors of pipes, fittings, and valves against contamination. Pipe delivered for construction shall be stored so as to minimize the entrance of foreign material. All openings in the pipeline shall be closed with watertight plugs when laying of the pipe has ceased at the close of the day's work or for other reasons, such as rest breaks or meal periods. Rodent-proof plugs may be used when it is determined that watertight plugs are not practicable and when thorough cleaning will be performed by flushing or other means.

Delay in placement of delivered pipe invites contamination. The more closely the rate of delivery is correlated to the rate of pipe laying, the lower the risk of contamination.

B. Joints

Joints of all pipes in the trench shall be completed before work is stopped. If water accumulates in the trench, the plugs shall remain in place until the trench is dry.

C. Packing Materials

Yarning or packing material shall consist of molded or tubular rubber rings, rope of treated paper, or other approved materials. Materials such as jute or hemp shall not be used. Packing material shall be handled in a manner that avoids contamination. If asbestos rope is used, it shall be handled in a manner that prevents asbestos from being introduced into the water-carrying portion of the pipe.

D. Sealing Materials

No contaminated material or any material capable of supporting prolific growth of microorganisms shall be used for sealing joints. Sealing material or gaskets shall be handled in a manner that avoids contamination. The lubricant used in the installation of sealing gaskets shall be suitable for use in potable water. It shall be delivered to the job in closed containers and shall be kept clean.

E. Cleaning and Swabbing

If dirt enters the pipe, it shall be removed and the interior pipe surface swabbed with a one percent (1%) hypochlorite disinfecting solution. If, in the opinion of the Authority the dirt remaining in the pipe will not be removed by the flushing operation, then the interior of the pipe shall be cleaned by mechanical means such as a hydraulically propelled foam pig (or other suitable device acceptable to the Authority) in conjunction with the application of a one percent (1%) hypochlorite disinfecting solution to the interior pipe surface. The cleaning method used shall not force mud or debris into the interior pipe-joint spaces and shall be acceptable to the Authority.

F. Wet-Trench Construction

If it is not possible to keep the pipe and fittings dry during installation, every effort shall be made to ensure that any of the water that may enter the pipe-joint spaces contains an available-chlorine concentration of approximately twenty-five (25) mg/L. This may be accomplished by adding calcium hypochlorite granules or tablets to each length of pipe before it is lowered into a wet trench, or by treating the trench water with hypochlorite tablets.

G. Flooding by Storm or Accident During Construction

If the main is flooded during construction, it shall be cleared of the floodwater by draining and flushing with potable water until the main is clean. The section exposed to the floodwater shall then be filled with chlorinated potable water that, at the end of a twenty-four (24) hour holding period, will have a free chlorine residual of not less than twenty-five (25) mg/L. The chlorinated water may then be drained or flushed from the main. After construction is completed, the main shall be disinfected using the continuous-feed or slug method.

H. Backflow Protection

As an optional procedure (if required by the Authority), the new water main shall be kept isolated from the active distribution system by physical separation until satisfactory bacteriological testing has been completed and the disinfectant water flushed out. Water required to fill the new main for hydrostatic pressure testing, disinfection and flushing shall be supplied through a temporary connection between the distribution system and the new main. The temporary connection shall include an appropriate cross-control device consistent with the degree of hazard and shall be disconnected (physically separated) from the new main during the hydrostatic pressure test. It will be necessary to reestablish the temporary connection after completion of the hydrostatic pressure test to flush out the disinfectant water prior to

final connection of the new main to the distribution system.

23.6 Methods of Chlorination

A. Three (3) methods of chlorination are explained in this Section 23.6: tablet, continuous feed and slug. The tablet method gives an average chlorine dose of approximately twenty-five (25) mg/L; the continuous-feed method gives a twenty-four (24) hour chlorine residual of not less than ten (10) mg/L; and the slug method gives a three (3) hour exposure of not less than fifty (50) mg/L free chlorine.

B. Tablet Method

1. The Tablet Method consists of placing calcium hypochlorite granules or tablets in the water main as it is being installed and then filling the main with potable water when installation is completed.

   This method may be used only if the pipes and appurtenances are kept clean and dry during construction.

2. *Placing of Calcium Hypochlorite Granules:* During construction, calcium hypochlorite granules shall be placed at the upstream end of the first section of pipe, at the upstream end of each branch main, and at intervals of five-hundred (500) feet. The quantity of granules shall be as shown in Table 1 attached hereto.

   WARNING: This procedure must not be used on solvent-welded plastic or on screwed-joint steel pipe because of the danger of fire or explosion from the reaction of the joint compounds with the calcium hypochlorite.

3. *Placing of Calcium Hypochlorite Tablets:* During construction, five (5) g calcium hypochlorite tablets shall be placed in each section of pipe. Also, one such tablet shall be placed in each hydrant, hydrant branch, and other appurtenance. The number of five (5) g tablets required for each pipe section shall be $0.0012\ d^2L$ rounded to the next higher integer, where d is the inside pipe diameter, in inches, and L is the length of the pipe section, in feet. Table 2, attached hereto, shows the number of tablets required for commonly used sizes of pipe. The tablets shall be attached by a food-grade adhesive, such as Permatex Form-A-Gasket No. 2 and Permatex Clear RTV Silicone Adhesive Sealant as manufactured by Loctite Corporation. There shall be no adhesive on the tablet except on the broadside attached to the surface of the pipe.

   Attach all the tablets inside and at the top of the main, with approximately equal numbers of tablets at each end of a given pipe length. If the tablets are attached before the pipe section is placed in the trench, their position shall be marked on the section so it can be readily determined that the pipe is installed with the tablets at the top.

4. *Filling and Contact:* When installation has been completed, the main shall be filled with water at a rate such that water within the main will flow at a velocity no greater than one foot (1') per second (1 ft/s) (0.3 m/s). Precau-

tions shall be taken to ensure that air pockets are eliminated. This water shall remain in the pipe for at least twenty-four (24) hours. If the water temperature is less than forty-one degrees (41°) Fahrenheit [or five degrees (5°) Celsius], the water shall remain in the pipe for at least forty-eight (48) hours. As an optional procedure (if specified by the Authority), water used to fill the new main shall be supplied through a temporary connection that shall include an appropriate cross-connection control device, consistent with the degree of hazard, for backflow protection of the active distribution system.

C. Continuous-Feed Method

1. The Continuous-Feed Method consists of placing calcium hypochlorite granules in the main during construction (optional), completely filling the main to remove all air pockets, flushing the completed main to remove particulates, and filling the main with potable water. The potable water shall be chlorinated so that, after a twenty-four (24) hour holding period in the main, there will be a free chlorine residual of not less than ten (10) mg/L.

2. *Placing of Calcium Hypochlorite Granules:* At the option of the Authority, calcium hypochlorite granules shall be placed in pipe sections as specified in Section 23.6.B.2 above. The purpose of this procedure is to provide a strong chlorine concentration in the first flow of flushing water that flows down the main. In particular, this procedure is recommended when the type of pipe is such that this first flow of water will flow into annular spaces at pipe joints.

3. *Preliminary Flushing:* Before being chlorinated, the main shall be filled to eliminate air pockets and shall be flushed to remove particulates. The flushing velocity in the main shall not be less than two and one-half feet (2.5') per second (2.5 ft/s) (0.76 m/s), unless the Authority determines that conditions do not permit the required flow to be discharged to waste. Table 3, attached hereto, provides the rates of flow required to produce a velocity of two and one-half feet (2.5') per second (2.5 ft/s) (0.76 m/s) in commonly used sizes of pipe. Note that flushing is no substitute for preventive measures during construction. Certain contaminants, such as caked deposits, resist flushing at any feasible velocity.

   For diameter mains twenty-four inches (24") (six hundred millimeters (600mm)) or larger in size, an acceptable alternative to flushing is to broom-sweep the main, carefully removing all sweepings prior to chlorinating the main.

4. *Procedure for Chlorinating the Main*

   a. Water supplied from a temporary, backflow-protected connection to the existing distribution system or other approved source of supply shall be made to flow at a constant, measured rate into the newly installed water main. In the absence of a meter, the rate may be approximated by methods such as placing a Pitot gauge in the discharge, measuring the time to fill a container of known volume.

b. At a point not more than ten feet (10') (three 3) meters) downstream from the beginning of the new main, water entering the new main shall receive a dose of chlorine fed at a constant rate such that the water will have not less than twenty-five (25) mg/L free chlorine. To ensure that this concentration is provided, measure the chlorine concentration at regular intervals in accordance with the procedures described in the current edition of *Standard Methods for the Examination of Water and Wastewater* or AWWA Manual M12, or using appropriate chlorine test kits.

Table 4, attached hereto, provides the amount of chlorine required for each one hundred feet (100') (thirty and one-half meters (30.5 m) of pipe of various diameters. Solutions of one percent (1%) chlorine may be prepared with sodium hypochlorite or calcium hypochlorite. The latter solution requires one (1) lb. (four hundred fifty-four grams (454 g)) of calcium hypochlorite in eight (8) gallons (thirty and three-tenths liters (30.3 L)) of water.

c. As an optional procedure (if specified by the Authority), water used to fill the new main during the application of chlorine shall be supplied through a temporary connection. This temporary connection shall be installed with an appropriate cross-connection control device, consistent with the degree of hazard, for backflow protection of the active distribution system. Chlorine application shall not cease until the entire main is filled with heavily chlorinated water. The chlorinated water shall be retained in the main for at least twenty-four (24) hours, during which time all valves and hydrants in the treated section shall be operated to ensure disinfection of the appurtenances. At the end of this twenty-four (24) hour period, the treated water in all portions of the main shall have a residual of not less than ten (10) mg/L free chlorine.

d. Direct-feed chlorinators, which operate solely from gas pressure in the chlorine cylinder, shall not be used for the application of liquid chlorine. (The danger of using direct-feed chlorinators is that water pressure in the main can exceed gas pressure in the chlorine cylinder. This allows a backflow of water into the cylinder, resulting in severe cylinder corrosion and escape of chlorine gas.) The preferred equipment for applying liquid chlorine is a solution-feed, vacuum-operated chlorinator and a booster pump.

The vacuum-operated chlorinator mixes the chlorine gas in solution water; the booster pump injects the chlorine-gas solution into the main to be disinfected. Hypochlorite solutions may be applied to the water main with a gasoline or electrically powered chemical-feed pump designed for feeding chlorine solutions. Feed lines shall be of such material and strength as to safely withstand the corrosion caused by the concentrated chlorine solutions and the maximum pressures that may be created by the pumps. All connections shall be checked for tightness before the solution is applied to the main.

D. Slug Method

1. The Slug Method consists of placing calcium hypochlorite granules in the main during construction, completely filling the main to eliminate all air pockets, flushing the main to remove particulates, and slowly flowing through the main a slug of water dosed with chlorine to a concentration of one hundred (100) mg/L. The slow rate of flow ensures that all parts of the main and its appurtenances will be exposed to the highly chlorinated water for a period of not less than three (3) hours.

2. *Placing Calcium Hypochlorite Granules:* Same as Section 23.6.C.2 above.

3. *Preliminary Flushing:* Same as Section 23.6.C.3 above.

4. *Chlorinating the Main:*

   a. Same as Section 23.6.C.4 above.

   b. At a point not more than ten feet (10') (three meters (3 m)) downstream from the beginning of the new main, water entering the new main shall receive a dose of chlorine fed at a constant rate such that the water will have not less than one hundred (100) mg/L free chlorine. To ensure that this concentration is achieved, the chlorine concentration should be measured at regular intervals. The chlorine shall be applied continuously and for a sufficient period to develop a solid column, or "slug," of chlorinated water that will, as it moves through the main, expose all interior surfaces to a concentration of approximately one hundred (100) mg/L for at least three (3) hours.

   c. The free chlorine residual shall be measured in the slug as it moves through the main. If at any time it drops below fifty (50) mg/L, the flow shall be stopped, chlorination equipment shall be relocated at the head of the slug and, as flow is resumed, chlorine shall be applied to restore the free chlorine in the slug to not less than one hundred (100) mg/L.

   d. As the chlorinated water flows through fittings and valves, related valves and hydrants shall be operated so as to disinfect appurtenances and pipe branches.

23.7 Final Flushing

A. Clearing the Main of Heavily Chlorinated Water

After the applicable retention period, heavily chlorinated water should not remain in prolonged contact with pipe. In order to prevent damage to the pipe lining or corrosion damage to the pipe itself, the heavily chlorinated water shall be flushed from the main until chlorine measurements show that the concentration in the water leaving the main is no higher than that generally prevailing in the distribution system or is acceptable for domestic use.

B. Disposing of Heavily Chlorinated Water

The environment into which the chlorinated water is to be discharged shall be inspected. If there is any possibility that the chlorinated discharge will cause damage to the environment, then a neutralizing chemical shall be applied to the water to be wasted to neutralize thoroughly the chlorine residual remaining in the water. (See Table 5, attached hereto, for neutralizing chemicals.) Where necessary, federal, state, provincial, and local regulatory agencies should be contacted to determine special provisions for the disposal of heavily chlorinated water.

23.8 Bacteriological Tests

A. Standard Conditions

After final flushing and before the new water main is connected to the distribution system, two (2) consecutive sets of acceptable samples, taken at least twenty-four (24) hours apart, shall be collected from the new main. At least one (1) set of samples shall be collected from every one thousand two hundred feet (1,200') (three hundred sixty-six meters (366 m)) of the new water main, plus one (1) set from the end of the line and at least one (1) set from each branch. All samples shall be tested at a Pennsylvania DEP Certified Laboratory for bacteriological quality in accordance with *Standard Methods for the Examination of Water and Wastewater and* shall show the absence of coliform organisms. A standard heterotrophic plate count may be required at the option of the Authority.

B. Special Conditions

If trench water has entered the new main during construction or, if in the opinion of the Authority, excessive quantities of dirt and/or debris have entered the new main, bacteriological samples shall be taken at intervals of approximately two hundred feet (200') (sixty-one meters (61 m)) and shall be identified by location. Samples shall be taken of water that has stood in the new main for at least sixteen (16) hours after final flushing has been completed.

C. Sampling Procedure

Samples for bacteriological analysis shall be collected in sterile bottles treated with sodium thiosulfate as required by *Standard Methods for the Examination of Water and Wastewater.* No hose or fire hydrant shall be used in the collection of samples.

23.9 Redisinfection

If the initial disinfection fails to produce satisfactory bacteriological results, the new main may be reflushed and shall be resampled. If check samples also fail to produce acceptable results, the main shall be rechlorinated by the continuous-feed or slug method of chlorination until satisfactory results are obtained.

NOTE: High velocities in the existing system, resulting from flushing the new main, may disturb sediment that has accumulated in the existing mains. When check samples are taken, it is advisable to sample water entering the new main.

23.10 Final Connections to Existing Mains (OPTIONAL)

A. As an optional procedure if required by the Authority, water mains and appurtenances must be completely installed, flushed and disinfected, and satisfactory bacteriological sample results received by the Authority, prior to permanent connections being made to the active distribution system. Sanitary construction practices must be followed during installation of the final connection, so that there is no contamination of the new or existing water main with foreign material or groundwater.

B. Connections Equal to or Less than One Pipe Length ≦ 18 ft. [5.5 m])

As an optional procedure, the new pipe, fittings, and valve(s) required for the connection may be spray-disinfected or swabbed with a minimum one percent (1%) solution of chlorine just prior to being installed, if the total length of connection from the end of a new main to the existing main is equal to or less than eighteen feet (18') (five and one-half meter (5.5 m)).

C. Connections Greater Than One Pipe Length (>18 ft [5.5 m])

As an optional procedure (if required by the Authority), the pipe required for the connection must be set up aboveground, disinfected, and bacteriological samples taken, as described in Section 23.6, through Section 23.9 above, if the total length of connection from the end of a new main to the existing main is greater than eighteen feet (18') (five and one-half meters (5.5 m)). After satisfactory bacteriological sample results have been received for this "pre-disinfected" pipe, the pipe can be used in connecting the new main to the active distribution system. Between the time that satisfactory bacteriological sample results are received and the time that the connection piping is installed, the ends of this piping must be sealed with plastic wraps or watertight plugs or caps.

23.11 Disinfection Procedures When Cutting Into or Repairing Existing Mains

A. The following procedures apply primarily when existing mains are wholly or partially dewatered. After the appropriate procedures have been completed, the existing main may be returned to service prior to completion of bacteriological testing in order to minimize the time customers are out of water. Leaks or breaks that are repaired with clamping devices while the mains remain full of pressurized water present little danger of contamination and require no disinfection.

B. Trench Treatment

When an existing main is opened, either by accident or by design, the excavation will likely be wet and may be badly contaminated from nearby sewers. Liberal quantities of hypochlorite applied to open trench areas will lessen the danger from such pollution. Tablets have the advantage in such a situation because they dissolve slowly and continue to release hypochlorite as water is pumped from the excavation.

C. Swabbing with Hypochlorite Solution

The interior of all pipe and fittings (particularly couplings and sleeves) used in

making the repair shall be swabbed or sprayed with a one percent (1%) hypochlorite solution before they are installed.

D. Flushing

Thorough flushing is the most practical means of removing contamination introduced during repairs. If valve and hydrant locations permit, flushing toward the work location from both directions is recommended. Flushing shall be started as soon as the repairs are completed and shall be continued until discolored water is eliminated.

E. Slug Chlorination

When practical, in addition to the procedures above, the section of main in which the break is located shall be isolated, all service connections shut off, and the section flushed and chlorinated as described in Section 23.6.D above, except that the dose may be increased to as much as 300 mg/L and the contact time reduced to as little as fifteen (15) minutes. After chlorination, flushing shall be resumed and continued until discolored water is eliminated, and the water is free of noticeable chlorine odor.

F. Sampling

Bacteriological samples shall be taken after repairs are completed to provide a record for determining the procedure's effectiveness. If the direction of flow is unknown, then samples shall be taken on each side of the main break. If positive bacteriological samples are recorded, then the situation shall be evaluated by the Authority who can determine corrective action, and daily sampling shall be continued until two (2) consecutive negative samples are recorded.

23.12 Special Procedure for Caulked Tapping Sleeves

Before a tapping sleeve is installed, the exterior of the main to be tapped shall be thoroughly cleaned, and the interior surface of the sleeve shall be lightly dusted with calcium hypochlorite powder.

Tapping sleeves are used to avoid shutting down the main to be tapped. After the tap is made, it is impossible to disinfect the annulus without shutting down the main and removing the sleeve. The space between the tapping sleeve and the tapped pipe is normally one-half inch (1/2") (thirteen-millimeter (13 mm)), more or less, so that as little as one hundred (100) mg/ft2 of calcium hypochlorite powder will provide a chlorine concentration of over fifty (50) mg/L.

24.0 HYDROSTATIC TESTING

24.1 Pressure and Leakage Test

A. Test Restrictions

Test pressure shall not be less than one and one-quarter (1.25) times the working pressure at the highest point along the test section.

Test pressure shall not exceed pipe or thrust-restraint design pressures.

The hydrostatic test shall be for a minimum two (2) hour duration.

Test pressure shall not vary by more than ± five (5) psi (thirty-four and one-half (34.5) kPa)) for the duration of the test.

Valves shall not be operated in either direction at a differential pressure exceeding the rated valve working pressure. Use of a test pressure greater than the rated valve pressure can result in trapped test pressure between the gates of a double-disc gate valve. For tests at these pressures, the test setup should include a provision, independent of the valve, to reduce the line pressure to the rated valve pressure on completion of the test. The valve can then be opened enough to equalize the trapped pressure with the line pressure, or fully opened if desired.

The test pressure shall not exceed the rated pressure of the valves when the pressure boundary of the test section includes closed, resilient-seated gate valves or butterfly valves.

B. Pressurization

After the pipe has been laid, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure of at least one and one-half (1.5) times the working pressure at the point of testing. Each valved section of pipe shall be slowly filled with water, and the specified test pressure (based on the elevation of the lowest point of the line or section under test and corrected to the elevation of the test gauge) shall be applied by means of a pump connected to the pipe. Valves shall not be operated in either the opening or closing direction at differential pressures above the rated pressure. It is good practice to allow the system to stabilize at the test pressure before conducting the leakage test.

C. Air Removal

Before applying the specified test pressure, air shall be expelled completely from the section of piping under test. If permanent air vents are not located at all high points, corporation cocks shall be installed at such points so that the air can be expelled as the line is filled with water. After all the air has been expelled, the corporation cocks shall be closed and the test pressure applied. At the conclusion of the pressure test, the corporation cocks shall be removed and plugged or left in place as required by the Specifications.

D. Examination

All exposed pipe, fittings, valves, hydrants, and joints shall be examined carefully during the test. Any damage or defective pipe, fittings, valves, hydrants, or joints that are discovered following the pressure test shall be repaired or replaced with sound material, and the test shall be repeated until satisfactory results are obtained.

E. Leakage Defined

Leakage shall be defined as the quantity of water that must be supplied into the

newly laid pipe or any valved section thereof to maintain pressure within five (5) psi (thirty-four and one-half (34.5) kPa)) of the specified test pressure after the pipe has been filled with water and the air has been expelled. Leakage shall not be measured by a drop in pressure in a test section over a period of time.

F. Allowable Leakage

No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

In inch-pound units,

$$L = \frac{SD\sqrt{P}}{148{,}000}$$

Where:

L = allowable leakage, in gallons per hour
S = length of pipe tested, in feet
D = nominal diameter of the pipe, in inches
P = average test pressure during the leakage test, in pounds per square inch (gauge)

This formula is based on an allowable leakage of eleven and sixty-five one-hundredths (11.65) gpd/mi/in. (1.079 L/day/km/mm) of nominal diameter at a pressure of one hundred fifty (150) psi (one thousand thirty-four (1,034) kPa)).

G. Allowable leakage at various pressures is shown in Table 6.

H. When testing against closed metal-seated valves, an additional leakage per closed valve of seventy-eight ten-thousandths (0.0078) gal/h/in. (1.2 mL/h/mm) of nominal valve size shall be allowed.

I. When hydrants are in the test section, the test shall be made against the main valve in the hydrant.

J. Acceptance of Installation

Acceptance shall be determined on the basis of allowable leakage. If any test of laid pipe discloses leakage greater than that specified in Section 24.1.F above, repairs or replacements shall be accomplished in accordance with the specifications.

K. All visible leaks are to be repaired regardless of the amount of leakage.

25.0 PERMITS AND LICENSES

The Contractor shall be responsible for obtaining any and all Federal, State, County or Local Permits or licenses required for the execution of the proposed work. The Contractor shall be responsible for all costs associated with securing such Permits and/or Licenses and any costs or fees for inspections

which may be required as a condition of such Permits or Licenses.

26.0 INSPECTION OF WORK

All materials and workmanship shall be subject to inspection, examination, or test by the Authority at any and all times during manufacture or construction and at any and all places where such manufacture or construction is carried on. The Authority shall have the right to reject defective material and workmanship or require its correction. Unacceptable workmanship shall be satisfactorily corrected. Rejected material shall be promptly segregated and removed from the construction site and replaced with material of specified quality.

The Authority and governmental agencies with jurisdictional interests will have access to the work at reasonable times for their observation, inspection and testing. The Contractor shall provide proper and safe conditions for such access.

The Contractor shall give ample notice to the Authority before laying pipe so that an Inspector may make proper inspection. All pipes, before being lowered into the trench, shall be inspected and both ends shall be cleaned.

Before backfilling is begun, the Contractor shall make tests as directed by the Authority in order to ascertain if joints are tight. Leaking, poor or misaligned joints shall be removed or repaired at once.

27.0 CONSTRUCTION - GENERAL REQUIREMENTS

All construction shall proceed in a neat and organized manner. The construction of water distribution or transmission facilities shall be conducted systematically so as to avoid piece-meal construction leading to the need to sleeve together sections of water mains constructed separately.

No construction of any water main will be permitted until the construction has been adequately staked-out by the Project Engineer or Surveyor. The Authority shall be the sole judge of the adequacy of the stake-out. If during the course of the work, the Authority determines that adequate stake-out or control points either do not exist or were removed, buried, damaged, mislocated or lost and that any further construction cannot be continued with reasonable assurance that the facilities are being installed in their proper design location, the work shall be discontinued until adequate construction stake-out or control points are established.

To ensure that all water facilities are installed to the proper depth, construction of water mains or appurtenances will not be permitted until all rough grading of the areas in which such facilities are to be located is completed. For the purposes of this Section 27.0, rough grading shall be considered to be the design finished grade plus or minus four inches (4”).

28.0 AS-BUILT DRAWINGS

At the completion of the project and prior to the final acceptance of any facilities by the Authority, accurate “as-built” Drawings shall be provided to the Authority. “As-built” Drawings shall be reproducible mylars or acceptable electronic file and shall include the field measurements, dimensions and/or stations and offsets depicting the final “as-built” location and size of all water mains, valves, fittings, fire hydrants, air/vacuum release valves, blow-offs, etc. The “as-built” Plans

may illustrate the location of valves and fittings by way of accurate horizontal distance measurements (references) to other permanent physical features such as manholes, inlets, utility poles, buildings, etc. The use of supplemental drawings and/or enlarged scale views or details is encouraged as a means to include important information regarding the size, depth and/or location of the water mains or appurtenances. The relative location, depth and approximate clearance of other underground utilities and/or structures in close proximity to the water lines or appurtenances shall be included on the As-built Drawings. Following submission of the As-built Plans, any revisions or additional information requested by the Authority shall subsequently be provided by the Contractor.

29.0 SPECIFICATION OF EQUIPMENT AND MATERIALS

Any provision in these Specifications specifying a particular manufacturers' equipment or materials is intended to provide certain standards of performance of the Authority's facilities and to maintain a consistent, efficient and economical manner of maintenance of and to those facilities. The Authority's engineer, in its sole discretion, may approve the use of other manufacturers' equipment or materials that it deems to be comparable and consistent with the Authority's objectives.

30.0 CONFLICT WITH AUTHORITY'S RULES AND REGULATIONS

In the event of any conflict or inconsistency between these Specifications and the Authority's Rules and Regulations, whether relating to specifications, requirements and conditions concerning the planning, designing, constructing, installing and testing of water facilities under the jurisdiction of the Authority or otherwise, these Specification shall govern in all instances.

TABLE 1

Ounces of calcium hypochlorite granules to be placed at beginning of main and at each interval of five hundred feet (500'):

Pipe Diameter		Calcium Hypochlorite Granules	
in.	(mm)	oz.	(g)
4	(100)	0.5	(14)
6	(150)	1.0	(28)
8	(200)	2.0	(57)
12	(250)	4.0	(113)
16 and larger	(400 and larger)	8.0	(227)

TABLE 2

Number of five (5) gram calcium hypochlorite tablets required for dose of twenty-five (25) mg/L*:

Pipe Diameter		Length of Pipe Section, ft (m)				
		13 (4.0) or less	18 (5.5)	20 (6.1)	30 (9.1)	40 (12.2)
in.	(mm)	Number of 5-g Calcium Hypochlorite Tablets				
4	(100)	1	1	1	1	1
6	(150)	1	1	1	2	2
8	(200)	1	2	2	3	4
10	(250)	2	3	3	4	5
12	(300)	3	4	4	6	7
16	(400)	4	6	7	10	13

*Based on three and one-quarter (3.25) gram available chlorine per tablet; any portion of tablet rounded to next higher integer.

TABLE 3

Required flow and openings to flush pipelines forty (40) psi [276 kPa]) residual pressure in water main*

Pipe Diameter		Flow Required To Produce 2.5 ft/s (approx.) Velocity in Main		Size of Tap, in. (mm)			Number of 2½ in. (64 mm) Hydrant Outlets
				1 (25)	1½ 38	2 (51 mm)	
in.	(mm)	gpm	(L/s)	Number of Taps on Pipe **			
4	(100)	100	(6.3)	1	---	---	1
6	(150)	200	(12.6)	---	1	---	1
8	(200)	400	(25.2)	---	2	1	1
10	(250)	600	(37.9)	---	3	2	1
12	(300)	900	(56.8)	---	---	2	2
16	(400)	1600	(100.9)	---	---	4	2

*With a forty (40) psi (276-kPa) pressure in the main and the hydrant flowing to atmosphere, a two and one-half inches (2½") (64-mm) hydrant outlet will discharge approximately one thousand (1,000) gpm (63.1 L/s); and a four and one-half inches (4 ½") (114-mm) hydrant outlet will discharge approximately two thousand five hundred (2,500) gpm (160 L/s).

**Number of taps on pipe based on discharge through five feet (5') (1.5 m) of galvanized iron (GI) pipe with one (1) ninety-degree (90°) elbow.

TABLE 4

Chlorine required to produce twenty-five (25) mg/L concentration in one hundred feet (100') (thirty and one-half meters (30.5 m) of pipe by diameter:

Pipe Diameter		100 Percent Chlorine		1 Percent Chlorine Solution	
in.	(mm)	lb.	(g)	gal.	(L)
4	(100)	.013	(5.9)	.16	(0.6)
6	(150)	.030	(13.6)	.36	(1.4)
8	(200)	.054	(24.5)	.65	(2.5)
10	(250)	.085	(38.6)	1.02	(3.9)
12	(300)	.120	(54.4)	1.44	(5.4)
16	(400)	.217	(98.4)	2.60	(9.8)

TABLE 5

Amounts of chemicals required to neutralize various residual chlorine concentrations in one hundred thousand (100,000) gallons (378.5m^3) of water

Residual Chlorine Concentration Mg/L	Chemical Required							
	Sulfur Dioxide (SO_2)		Sodium Bisulfite ($NaHSO_3$)		Sodium Sulfite (Na_2SO_3)		Sodium Thiosulfate ($Na_2S_2O_35H_2O$)	
	lb.	(kg)	lb.	(kg)	lb.	(kg)	lb.	(kg)
1	0.8	(.36)	1.2	(.54)	1.4	(.64)	1.2	(.54)
2	1.7	(.77)	2.5	(1.13)	2.9	(1.32)	2.4	(1.09)
10	8.3	(3.76)	12.5	(5.67)	14.6	(6.62)	12.0	(5.44)
50	41.7	(18.91)	62.6	(28.39)	73.0	(33.11)	60.0	(27.22)

NOTES:

1. Check with the local sewer department for conditions of disposal to sanitary sewer.

2. Chlorine residual of water being disposed will be neutralized by treating with one of the chemicals listed in Table 5 above.

TABLE 6

ALLOWABLE LEAKAGE PER ONE THOUSAND FEET (1,000') OF PIPELINE* -gph**

Average Test Pressure psi	Nominal Pipe Diameter – in.													
	3	4	6	8	10	12	14	16	18	20	24	30	36	
450	0.43	0.57	0.86	1.15	1.43	1.72	2.01	2.29	2.58	2.87	3.44	4.30	5.16	
400	0.41	0.54	0.81	1.08	1.35	1.62	1.89	2.16	2.43	2.70	3.24	4.05	4.86	
350	0.38	0.51	0.76	1.01	1.26	1.52	1.77	2.02	2.28	2.53	3.03	3.79	4.55	
300	0.35	0.47	0.70	0.94	1.17	1.40	1.64	1.87	2.11	2.34	2.81	3.51	4.21	
275	0.34	0.45	0.67	0.90	1.12	1.34	1.57	1.79	2.02	2.24	2.69	3.36	4.03	
250	0.32	0.43	0.64	0.85	1.07	1.28	1.50	1.71	1.92	2.14	2.56	3.21	3.85	
225	0.30	0.41	0.61	0.81	1.01	1.22	1.42	1.62	1.82	2.03	2.43	3.04	3.65	
200	0.29	0.38	0.57	0.76	0.96	1.15	1.34	1.53	1.72	1.91	2.29	2.87	3.44	
175	0.27	0.36	0.54	0.72	0.89	1.07	1.25	1.43	1.61	1.79	2.15	2.68	3.22	
150	0.25	0.33	0.50	0.66	0.83	0.99	1.16	1.32	1.49	1.66	1.99	2.48	2.98	
125	0.23	0.30	0.45	0.60	0.76	0.91	1.06	1.21	1.36	1.51	1.81	2.27	2.72	
100	0.20	0.27	0.41	0.54	0.68	0.81	0.95	1.08	1.22	1.35	1.62	2.03	2.43	

*If the pipeline under test contains sections of various diameters, the allowable leakage will be the sum of the computed leakage for each size.

**Calculated on the basis of the equation in Section 24.

THE MUNICIPAL AUTHORITY OF THE TOWNSHIP OF ROBINSON

SPECIFICATIONS

FOR

CONSTRUCTION OF SANITARY SEWER LINES

THE MUNICIPAL AUTHORITY OF THE TOWNSHIP OF ROBINSON

SHORT FORM SPECIFICATIONS
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STANDARD DETAIL DRAWINGS:

THE MUNICIPAL AUTHORITY OF THE TOWNSHIP OF ROBINSON

SPECIFICATIONS FOR CONSTRUCTION OF SANITARY SEWER LINES

1.0 SCOPE

These Specifications have been developed as a guide to assist Developers, Designers and Contractors (for purposes of these Specifications, Developers, Designers and Contractors shall be hereinafter referred to, collectively, as "Contractor" or "Contractors," as the case may be) involved in planning, designing and constructing sanitary sewerage facilities under the jurisdiction of The Municipal Authority of the Township of Robinson. It should be understood that these Specifications are general in nature and are not intended to address all conditions or needs of a particular project. Special circumstances which are peculiar to individual projects may require special design considerations. The Contractors of proposed sanitary sewerage facilities is encouraged to consult with The Municipal Authority of the Township of Robinson and/or its authorized representatives (hereinafter, collectively, "the Authority") regarding specific problems or unusual circumstances which may arise in the planning, design or construction of such facilities.

2.0 GENERAL

Pipes and joints for the various types of sanitary sewer lines shall be of the materials indicated herein. Pipe shall be laid true to the grades shown on the Standard Detail Drawings (hereinafter, "the Drawings") submitted to and approved by the Authority or as directed by the Authority. All sanitary sewer mains shall be installed by utilizing laser equipment designed for the intended purpose. Laser equipment shall be checked for accuracy of grade and calibrated as required by the Authority. Each section of pipe shall rest upon the pipe bed for the full length of its barrel, with recesses to accommodate bells and joints. Any pipe that has its grade or joint disturbed after laying shall be taken up and re-laid. The interior of all pipe shall be thoroughly cleaned of all foreign matter before being lowered into the trench and shall be kept clean during laying operation by means of plugs or other approved methods. Any section of pipe already laid and found to be defective shall be removed and replaced with new pipe.

3.0 QUALITY ASSURANCE (SUBMITTALS AND SHOP DRAWINGS)

To ensure that the specified products are furnished and installed, submittals, including manufacturer's certificates, shop drawings, brochures, product samples and catalog cuts for all products and materials to be used in connection with the project, shall be submitted to the Authority. All such submittals shall be made in quadruplicate and sufficiently in advance of the purchase of such materials to permit review of such submittals by the Authority. Allow sufficient time for possible revisions and resubmittals. No substitution of materials or equipment shall be permitted without written approval of the Authority.

4.0 PLANS AND ALIGNMENT

Any person or firm who engages in the preparation of design plans for the construction or extension of the Authority's sanitary sewer facilities is encouraged to confer with the Authority prior to commencing design activities. The preparation of preliminary or sketch stage design plans, for the purposes of obtaining review comments, guidance and recommendations, is also encouraged as a means to anticipate problems and minimize the time and effort involved in producing acceptable final design plans.

Final design plans shall be of sufficient scale and shall be neat, legible and contain adequate details and dimensions to clearly demonstrate the size and location of the sanitary sewer mains and appurtenances, as well as the relative location of other utilities and/or pertinent physical features, whether existing or proposed.

The horizontal location of proposed sanitary sewer mains, fittings and other system components along roadways shall, to the extent practical, maintain a uniform parallel alignment with the roadway. Abrupt changes in horizontal and vertical alignment, or "snaking," is discouraged. The precise design location of sanitary sewer mains, fittings and other system components shall be identified by station and offset from the roadway centerline at sufficient intervals and at changes in direction. Other means of dimensioning or identifying the precise design location of the facilities, including changes in alignment, may be accepted. The position of all sanitary sewer system components shall be such that sufficient areas are available for maintenance and operational activities. Sanitary sewer facilities shall not be crowded over against one side of a public right of way or easement.

All plans shall include the applicable Standard Construction Details attached to these Specifications. In addition, enlarged scale views and special details shall be provided for special design conditions unique to a particular project.

5.0 TRENCHING AND PIPE BEDDING

The side walls of the trench shall be kept as nearly vertical as possible and shall be properly shored and braced. Trenches shall be excavated true to line and grade so that a clear space of not less than four inches (4") and not more than eight inches (8") is provided on either side of the barrel of the pipe.

All pipe trench excavation shall be made to a minimum depth of four inches (4") beneath the pipe. The pipe shall then be bedded in crushed stone or rounded gravel bedding material in accordance with the requirements for Class B, First Class Bedding material in accordance with A.S.T.M. Designation C-12 latest edition and conforming to the applicable Drawings.

Where rock excavation is encountered, the rock shall be excavated a minimum over-depth of six inches (6") below the trench depths specified. The over-depth rock excavation and all excessive trench excavation shall be backfilled with Class B, First Class Bedding material in accordance with A.S.T.M. Designation C-12 latest edition.

Where quicksand, muck or other such conditions exist, resulting in an unstable trench bottom, tongue and grove sheet piling, timber piles and/or over excavation and backfilling with selected borrow material may be required. The type and extent of methods employed to stabilize the trench bottom shall be approved by the Authority.

All ground water, or water from any other source or cause whatsoever, found in the trenches shall be pumped or bailed out so that the trench shall be dry during pipe laying period. No water shall be permitted to reach the joints or run through the pipe. All water pumped from the trenches shall be disposed of in a satisfactory manner.

6.0 PIPE

6.01 Polyvinyl Chloride (PVC)

PVC Pipe and fittings shall be bell and spigot type, free from defects and shall conform in all respects to A.S.T.M. Designation D-3034-SDR-35.

6.02 Ductile Iron Pipe

Ductile Iron Pipe shall be AWWA C151 special thickness Class 52, bell and spigot type, free from defects and shall conform in all respects to AWWA C150 and C151. The pipe shall be double cement mortar lined and asphalt coated inside and out in accordance with AWWA C104. All Ductile Iron Pipe shall be not less than special thickness Class 52, except where a higher-pressure class may be required by the Authority.

6.03 Steel Casing Pipe

Steel casing pipe shall be welded steel pipe, manufactured and tested in accordance with A.S.T.M. A-120, Grade B, with a minimum yield strength of thirty-five thousand (35,000) psi. The pipe shall be new, visibly sound and round. Minimum casing wall thickness shall be as follows:

NOMINAL DIAMETER OF CASING PIPE IN INCHES	WALL THICKNESS
Under 14	0.251”
14 and 16	0.282”
18	0.313”
20	0.344”
22	0.375”
24	0.407”
26	0.438”
28 and 30	0.469”
32	0.501”
34 and 36	0.532”

7.0 POLYETHYLENE ENCASEMENT OF DUCTILE IRON PIPE

Where the Authority requires the use of ductile iron pipe for reasons of depth of cover, high external loading, steep slopes or other physical circumstances, the ductile iron pipe shall be encased in polyethylene film in accordance with AWWA Standard C105 “Polyethylene Encasement for Ductile Iron Piping for Water and Other Liquids.”

8.0 JOINT RESTRAINT

Where sanitary sewer lines are installed on steep slopes, the Authority may require, in addition to pipe anchors, the use of joint restraint mechanisms, which may include, but are not limited to, approved field locking gaskets for ductile iron pipe or bell joint restrainers for PVC pipe.

9.0 CASING SPACERS

Where sanitary sewer lines are installed by boring, the sanitary sewer pipe shall be placed in a steel casing pipe and shall be supported by casing spacers constructed of high molecular weight polymer runners secured to a stainless-steel shell, as manufactured by Cascade Water Works Mfg. Co. of Yorkville, IL. Not less than three (3) spacers shall be used on each pipe length.

10.0 CASING END SEALS

Casing pipe end seals of the required size shall consist of one (1) rubber seal and two (2) T-304 stainless steel bands, as manufactured by Cascade Water Works Mfg. Co. of Yorkville, IL.

11.0 PRECAST SECTIONAL REINFORCED CONCRETE MANHOLES AND PRECAST MANHOLE BASES

All manholes sections shall be precast concrete and shall conform to A.S.T.M. Designation C-478, latest revision. Manhole joints shall have O-ring gaskets or two (2) rings of "Kent-Seal" No. 2 flexible sealant to insure water tightness conforming to A.S.T.M. Designation C-361 and C-443 latest revision. Manholes shall provide a watertight pipe to manhole connection. The pipe to manhole connection shall consist of either:

1. A molded neoprene blended compound boot conforming to A.S.T.M. Designation C-443, latest revision. The boot shall be secured to the pipe with a stainless-steel band; or

2. A lock gasket conforming to A.S.T.M. Rubber Gasket Specification C-443, latest revision. The lock gasket shall be cast integrally in the manhole wall. The gasket shall be designed to meet the performance requirements of A.S.T.M. Pipe Joint Specification C-425.

All manholes shall be watertight and infiltration proof as possible. Openings through the manhole walls shall be plugged with A. C. Horn "Water plug" or approved equal. Any noticeable ground water leakage into the manhole shall be repaired in a manner satisfactory to the Authority.

Manhole flow line channels shall be molded in the floor of the precast concrete base and shall be finished smooth. Concrete used for this purpose shall meet the Pennsylvania Department of Transportation, Form 408 Specifications for Class A concrete.

12.0 MANHOLE STEPS

Manhole steps shall be placed on centers of not less than twelve inches (12"), but not more than sixteen inches (16"). The steps shall be placed along the straight side of the manhole and shall be properly aligned. The steps shall be reinforced polypropylene plastic, as manufactured by M.A.

Industries, Inc., Type PS-4 or equal and shall conform in all respects to A.S.T.M. 2146-68 Type H Grade 49108.

13.0 MANHOLE FRAMES AND COVERS

All castings for manhole heads, covers and other purposes must be tough gray iron, free from cracks, holes, swells and cold shuts.

The quality shall be such that a blow from the hammer will produce an indentation on a rectangular edge of the casting without flaking the metal. All manhole castings shall be made accurately to the pattern and to the dimensions shown on the Drawings and shall be planned where marked or where otherwise necessary to secure perfectly flat and true surfaces.

Allowances shall be made in the patterns so that the thickness shall not be reduced. All lids which "rock" and do not lie solid after construction is finished will be condemned and must be replaced by perfect lids. No plugging, burning in or filling will be allowed. Covers must fit the frames in any position. All manhole covers shall be marked as shown on the applicable Drawings.

Frames shall be bolted down to the top section of manhole and shall have two (2) rows of "KENT-SEAL" flexible sealant placed between casting and manhole before securing.

14.0 MANHOLE INSERTS (SEWER GUARDS)

Where manholes are located in paved areas or may be subject to inflow of surface water for any reason, a watertight manhole insert shall be provided and installed to prevent inflow of such surface water into the manhole through the manhole cover. Manhole inserts shall be Sewer Guard Model MEC-4 Watertight Manhole Inserts, as manufactured by Methods Engineering Corp., Wilmington, DE or equal.

15.0 UNDERGROUND EARLY WARNING DETECTION TAPE

Underground early warning detection tape as indicated on the Drawings shall be placed above all sanitary sewer lines installed and as shown on the applicable Drawings.

The tape shall be similar and equal to Terra-Tape Extra Stretch, as manufactured by the Tape Products Division, Reef Industries. Tape shall be green and shall state, "Caution Sanitary Sewer Line Buried Below."

16.0 CEMENT CONCRETE AND READY-MIXED CEMENT CONCRETE

Cement concrete and ready-mixed cement concrete shall be Class A and conform to Section 704 of the Pennsylvania Department of Transportation Specifications, Form 408, as the same may be amended from time to time.

17.0 BACKFILLING

Caution in all cases of earth filling and backfilling shall be exercised in a manner ensuring that it is not done prematurely and that no pressure against which the construction has not been designed to withstand is exerted thereby. Any movement of the structure incident to neglect or failure in such exercise of caution shall be promptly and fully corrected.

The area to be backfilled shall be cleared of all trash and debris prior to backfilling. Material for backfilling shall consist of the excavation or a borrow of sand, gravel or other materials approved by the Authority and shall be free of trash, lumber and other debris. Backfill shall be placed in horizontal layers not in excess of six inches (6") in thickness, properly moistened to approximate optimum requirements and each layer compacted by vibrator tampers, machine tampers or other suitable equipment to not less than ninety-five percent (95%) of the determined dry weight density.

Puddling will not be permitted.

18.0 PIPE CONNECTIONS TO EXISTING MANHOLES

Pipe connections to existing manholes shall be made by coring a neat circular hole in the manhole wall and inserting a positive seal gasketing system as manufactured by A-Lok Products, Inc.

19.0 PIPE TESTING

19.01 Low Pressure Air Testing for Leakage

All sanitary sewer pipes shall be tested by means of a low-pressure air test. The final air test shall not be made until all service laterals have been installed up to the property line or edge of the easement, as the case may be. All air testing shall be performed prior to any permanent surface restoration.

The Contractor shall plug and brace the ends of the sanitary sewer lines being tested. At its option, the Contractor may conduct an initial air test of the sanitary sewer main line after densification of the backfill, but prior to installation of the house laterals. Such preliminary tests shall not constitute a final test.

The final leakage test shall be conducted in the following manner, and shall include both the sanitary sewer main line and laterals:

- Add air slowly to the portion of the pipe installation under test until the internal air pressure is raised to five (5) psig.

- After an internal pressure of five (5) psig is obtained, allow at least two (2) minutes for air temperature to stabilize, adding only the amount of air required to maintain the said five (5) psig internal pressure.

- After stabilization, the portion of the pipe installation under test must maintain an internal pressure of five (5) psig without loss for a minimum period of five (5) minutes.

- If pressure loss occurs within the stated five (5) minute period, the pipe section

under test shall have failed to meet the requirements of these Specifications and the Contractor shall make such repairs as are necessary in order to meet these Specifications.

- The input air pressure shall not exceed ten (10) psig, utilizing a regulator set to avoid over-pressurizing and damaging an otherwise acceptable line.

- The air testing equipment shall be approved by the Authority.

19.02 Deflection Test for PVC Pipe

The installed sanitary sewer line shall meet a deflection requirement of less than five percent (5%) by the use of a go/no-go gauge pulled through the line. This test shall be performed three (3) months after installation. The go/no-go gauge shall be supplied by the pipe manufacturer. The deflection test shall be performed on one hundred percent (100%) of the sanitary sewer system.

20.0 VACUUM TESTING OF MANHOLES

All new manholes shall be vacuum tested in accordance with the following procedure:

- Plug all pipe openings;

- Take care to securely brace the plugs and pipe;

- Inflate the compression band to create a seal between the vacuum base and the structure;

- Connect the vacuum pump to the outlet port with the valve open;

- Draw a vacuum to ten inches (10”) of Hg.;

- Close the valve;

- Start the test and maintain for sixty (60) seconds;

- Record the vacuum drop during the test period and:

  - If the vacuum drop is greater than one inch (1”) of Hg. during the test period, the manhole shall be repaired and retested;

  - If a vacuum drop of one inch (1”) of Hg. does not occur during the test period, the test shall be discontinued and the manhole will be accepted;

  - If the loss of vacuum exceeds one inch (1”) of Hg., repair leaks and retest; and

  - If a unit fails to meet a one-inch (1”) Hg. drop in the specified time after repair, the unit shall be subjected to the water exfiltration test and repaired as necessary as directed by the Authority.

21.0 INSPECTION OF WORK

All materials and workmanship shall be subject to inspection, examination and/or testing by the Authority at any and all times during manufacture or construction and at any and all places where such manufacture or construction is carried on. The Authority shall have the right to reject defective material and workmanship and require its correction. Unacceptable workmanship shall be satisfactorily corrected. Rejected material shall be promptly segregated and removed from the construction site and replaced with material of specified quality.

The Authority and governmental agencies with jurisdictional interests shall be provided access to the work at reasonable times for their observation, inspection and testing. The Contractor shall provide proper and safe conditions for such access.

The Contractor shall give ample notice to the Authority before laying pipe so that an inspector retained on or behalf of the Authority may conduct a proper inspection. All pipes shall be inspected and both ends shall be cleaned before being lowered into the trench.

Before backfilling is begun, the Contractor shall make tests as directed by the Authority in order to ascertain if joints are tight. Leaking, poor or misaligned joints shall be removed or repaired at once.

Further tests of the installation of sanitary sewers shall be made as follows:

- After the mains have been laid and backfill placed to two feet (2') above the pipe, a light will be flashed between manholes or, if the manhole has not yet been constructed, between the location of manholes, by means of a flashlight or mirrored light to determine whether the alignment of the main is true and whether any pipe has been displaced subsequent to laying.

- In case the alignment of the main is shown to be correct and no other defects are disclosed, backfilling may be continued.

- In case the test shows poor alignment of the main, misplaced pipe or other defects, such defects shall be remedied by the Contractor, to the satisfaction of the Authority before the work of backfilling proceeds.

22.0 AS-BUILT DRAWINGS

At the completion of the project and prior to the final acceptance of any facilities by the Authority, accurate "as-built" Drawings, including plans and profiles, shall be provided to the Authority. "As-built" Drawing shall be reproducible mylars or an acceptable electronic file and shall include the field measured horizontal distances between the centerline of each successive manhole. All distances shall be recorded to the nearest one hundredth of a foot (1/100'). The size and type of pipe for each section of the sanitary sewer line shall be clearly noted. The profiles shall include each manhole top, flow line-in and flow line-out elevation. All elevations shall be based on and tied to the United States Coast and Geodetic Survey Datum of 1929.

The as-built plans shall accurately demonstrate the location of all wyes and service connections. The as-built stationing of all wyes shall be recorded on the plan and may be included in a table of a tabular format which identifies the location (left or right) and the station of each wye, as

measured from the centerline of the sanitary sewer manhole located immediately downstream of the wye. The plans shall also include the stationing and perpendicular offset, indicating whether left or right, for the end of all service lines. The size, type and depth at the end of each service line shall also be indicated. The relative location, depth and approximate clearance of other underground utilities and/or structures in close proximity of the sanitary sewer lines and manholes shall be included on the "as-built" Drawings. The "as-built" Drawings shall be submitted to the Authority. Any revisions or additional information that may be required by the Authority shall be subsequently provided by the Contractor.

23.0 SPECIFICATION OF EQUIPMENT AND MATERIALS

Any provision in these Specifications specifying a particular manufacturers' equipment or materials is intended to provide certain standards of performance of the Authority's facilities and to maintain a consistent, efficient and economical manner of maintenance of and to those facilities. The Authority's engineer, in its sole discretion, may approve the use of other manufacturers' equipment or materials that it deems to be comparable and consistent with the Authority's objectives.

24.0 CONFLICT WITH AUTHORITY'S RULES AND REGULATIONS

In the event of any conflict or inconsistency between these Specifications and the Authority's Rules and Regulations, whether relating to specifications, requirements and conditions concerning the planning, designing, constructing, installing and testing of sanitary sewer facilities under the jurisdiction of the Authority or otherwise, these Specification shall govern in all instances.

End of Rules and Regulations